

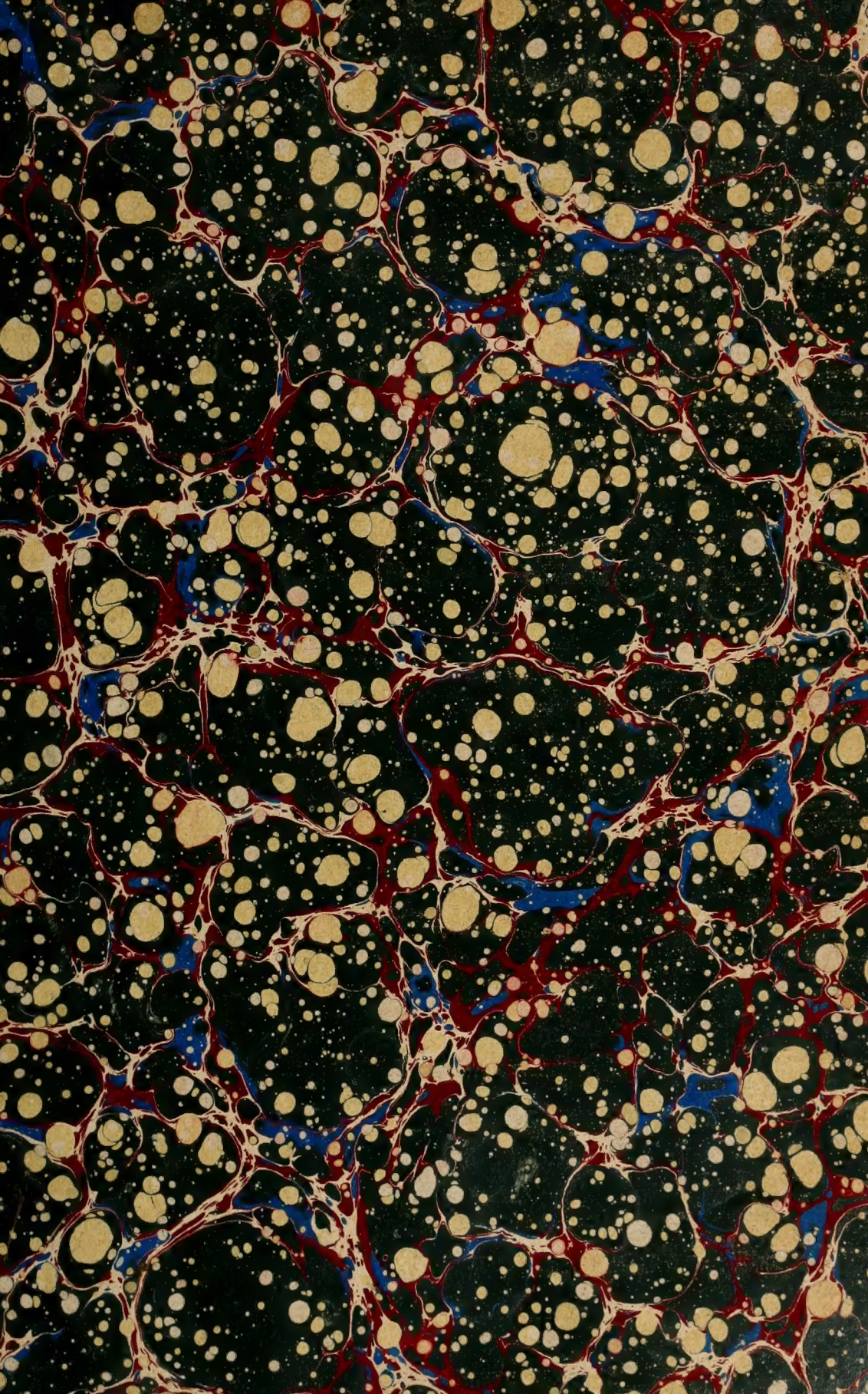
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THE
ICONOGRAPHIC ENCYCLOPÆDIA

ANTHROPOLOGY AND ETHNOLOGY

By DANIEL G. BRINTON, A. M., M. D.

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ETHNOGRAPHY

TRANSLATED FROM THE GERMAN OF

GEORG K. C. GERLAND

PROFESSOR IN THE UNIVERSITY OF STRASBURG, EDITOR OF WAITZ'S "ANTHROPOLOGIE," AUTHOR OF "ANTHROPOLOGISCHE BEITRÄGE," ETC., ETC.

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PHILADELPHIA.

EDITOR'S PREFACE.

THE present volume is the first of a series which will include in their scope all the principal ARTS and SCIENCES. Such a survey of the attainments of man logically begins with an investigation of Man himself, a discussion of his place in the scheme of nature, an examination into the underlying laws of his intellectual growth, and a description of the varieties of the species, their characteristics, their locations, and their relationships. These are the topics which are included in the sciences of ANTHROPOLOGY, ETHNOLOGY, and ETHNOGRAPHY; and to these branches of learning this first volume is devoted.

The articles on ANTHROPOLOGY and ETHNOLOGY have been prepared expressly for the present edition of this work, while that on ETHNOGRAPHY has been translated from the German of Professor GEORG K. C. GERLAND, now of the University of Strasburg. Professor Gerland's text, expressing as it does the accepted doctrines of a large school of European ethnologists, has been translated with entire fidelity to the views of the distinguished author, even on points where those of the Editor of the volume differed widely, as was not unfrequently the case. There are many points in Ethnography which must be considered as belonging to the yet undetermined and debatable domains of that science.

On the other hand, the ethnographic descriptions of Professor Gerland will recommend themselves to all by their vividness and accuracy. He has exercised scrupulous care to follow only the best authorities, and by a comparison of various sources to secure exactness where writers differed. His linguistic arguments, although somewhat dry reading to many persons, merit careful study, as they are the net results of wide philological comparisons.

It is now universally acknowledged that as an educational aid engravings are of the highest value, and that they add greatly to the worth of a publication as a means of instruction in the school and the family, as well as for private readers. Little, therefore, need be said of the illustrations which form so prominent a feature of this work. Their fidelity can be depended upon, and the text should be read with

constant reference to them. By appealing to the eye they fix permanently in the mind the facts and descriptions to which they relate.

The orthography of the numerous proper names occurring throughout the work has presented unusual difficulties, since in many instances they have no recognized English forms. As a rule, that orthography has been adopted which is most accordant with usage, rather than that which specialists have urged as more consonant with the standard alphabet generally adopted by linguists. This position is defensible, both because such specialists themselves are by no means in accord, and because in a work intended for general and popular instruction the introduction of the new orthographic methods—as, for instance, Cheraki for Cherokees—would prove confusing.

D. G. BRINTON.

PHILADELPHIA, Dec., 1885.

With special reference to the article on ETHNOGRAPHY, the Editor appends a brief sketch of the scientific career of Professor Gerland by way of introducing his work to the English-speaking public:

GEORG KARL CORNELIUS GERLAND was born at Cassel, January 29, 1833. He received his early training at the gymnasium of his native city, and pursued higher studies at the universities of Marburg and Berlin. He then entered upon his career as teacher, being first employed in his native town, and afterward in the Normal School at Magdeburg, where he taught from 1858 to 1870. During this period he took the degree of Doctor of Philosophy with a dissertation on "The Old Greek Dative." His inclination at this time was to strictly philological studies, but through his investigation of the Indo-Germanic and other languages he was led on to the study of Ethnography and Anthropology. In these branches he received excellent instruction from Professor Theodor Waitz at Marburg. On the death of Professor Waitz in 1864, Professor Gerland undertook the completion of his *Anthropology of Savage Races*. The preparation of this work mainly occupied his time until 1871, though he published some essays on kindred subjects, as *The Dying Out of Savage Races* (Leipsic, 1868). In 1870, Professor Gerland was called to the City Gymnasium at Halle, where he remained until Easter, 1875.

In organizing the University of Strasburg, intended to commemorate the formation of the new German Empire in 1870, it was the aim of the government to call to its service the most eminent scholars and teachers of Germany. For its chair of Geography and Ethnology, Professor Gerland was deservedly selected. In his new position he has devoted himself with renewed zeal to studies in Comparative Philology, Anthropology, and Geography. This last branch he teaches especially as a part of natural science, seeking to free it as much as possible from the usual limits imposed by history and from the burdens of statistics. Among his later publications are *Anthropological Essays* (vol. i., Halle, 1874); "Atlas of Ethnography," in the *Bilder-Atlas* (Leipsic, 1876); and contributions to Behm-Wagner's *Geographical Year-Book*, 1876.

PUBLISHERS' NOTICE.

IN presenting to the English-speaking world an Anglicized edition of the great German BILDER-ATLAS, under the English title, "THE ICONOGRAPHIC ENCYCLOPÆDIA," the Publishers are actuated by the conviction that they are supplying a widely-recognized desideratum, and that its publication will fill a notable gap in the encyclopædic works of the period.

Notwithstanding the magnitude of the original, which itself is *par excellence* a work of art, the Publishers have not hesitated to augment its rich store of pictorial representations with an extensive series of additional illustrations, and furthermore to supplement, by valuable additions from the pens of recognized authorities and specialists, the original text as it comes from the hands of the most notable German scholars of our time. In connection with the translations and the copious illustrations which form the basis of THE ICONOGRAPHIC, each subject will be presented separately in its most advanced stage of development, thus supplying in a systematic and attractive manner the increasing demand for works which treat of special subjects.

THE ICONOGRAPHIC embraces those branches of human knowledge whose acquisition can be facilitated and whose principles made clear by pictorial representation. The illustrations are mainly from the original plates, engraved by the most skilful German artists and unsurpassed in artistic and technical merit. They afford a systematic illustration of the Arts, Sciences, and Industries, and of their historical development, and they convey accurate information in the most agreeable and impressive manner. In this series of illustrated manuals all details of the subjects are treated according to their natural affinities.

The following constitute the leading divisions of the work: ANATOMY, ANTHROPOLOGY, AGRICULTURE, ARCHÆOLOGY, ARCHITECTURE, ASTRONOMY, BOTANY, BUILDING, CHEMISTRY, ENGINEERING, ETHNOLOGY, GEOLOGY, HISTORY OF CULTURE, MATHEMATICS, MECHANICS, MILITARY SCIENCE, MINERALOGY, MINING, MYTHOLOGY, NAVAL SCIENCE, PAINTING, PHYSICS, SCULPTURE, and ZOOLOGY.

The progress of civilization, natural science, the entire range of the liberal and fine arts, and the higher products of the artisan are treated, not alphabetically, but in their logical sequence.

The value of this work as a complement to any general encyclopædia cannot be overestimated. It is indispensable to those who desire to acquire a knowledge of the best practical achievements of mankind, since no other recent work of similar scope is accessible in our language.

In the family it will prove an endless source of enjoyment and instruction, a medium of practical education and accomplishments. Access to its treasures will give healthful stimulus to curiosity, instructive aid to studies, and refinement to taste.

Parents and teachers will readily concede that knowledge is more easily imparted and more fixedly retained when conveyed by means of accurate drawings accompanied by appropriate explanations.

The student will find in these minute and exact delineations invaluable aids in his pursuits, and the general reader, who in these days of active life can devote little time to research, will appreciate a production which places before his eye so inestimable a fund of graphic representations.

The work is both instructive and entertaining: it is replete with suggestions for artists, mechanics, and inventors; and in this age of discovery and progress no other agency could be employed which would prove so helpful in giving a practical direction to the aims of life.

The marked success which the work has achieved, not only in its original German form, but also in its translations into other European languages, attests its sterling value as an efficient means of popular instruction.

By special arrangement with the original publisher, F. A. Brockhaus of Leipsic, the present publication will be the only edition in the English language. The compendious additions made to the work have enabled the Publishers to present the English edition in a form combining a popular rendering of the entire range of the arts and sciences with the style and execution of a work of art; and it is thus presented as a fit receptacle of the great store of valuable information which it contains.

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ANTHROPOLOGY, ETHNOLOGY, AND ETHNOGRAPHY.

PART I. ANTHROPOLOGY.

OF the various branches of human learning, there are three which make man himself the subject of investigation : these are ANTHROPOLOGY, ETHNOLOGY, and ETHNOGRAPHY. They are closely allied, but, as they differ both in their methods and in their fields of research, the distinction between them becomes an important one.

Definitions.—ANTHROPOLOGY (from the Greek *ἄνθρωπος*, man, and *λόγος*, a discourse) deals with man as a zoological species. It defines the differences which distinguish him from other species of the higher animals. It sets forth his physical and mental peculiarities. It treats him as a unit in the series of organic forms, and catalogues the traits which bind all his varieties into one species, while at the same time they separate him sharply from the other highly-developed mammals.

ETHNOLOGY (from the Greek *ἔθνος*, a people, and *λόγος*, a discourse) contemplates man as essentially a social creature—as bound together in communities by ties of mutual protection, of recognized kinship, of a common religion, of a language, of affection, and of government. It studies, not man in general, but men in their various races, nations, tribes, and families. It is much more concerned with the mental, the psychical, part of man than with his physical nature, and seeks to trace his intellectual development as the result of his social relations.

ETHNOGRAPHY (from the Greek *ἔθνος*, a people, and *γράφειν*, to write) also studies men in communities ; but it differs from Ethnology by confining itself to the collection of facts and the description of actual relations and customs. It does not undertake to explain their origin, their influence, and their sociologic significance. These belong to Ethnology, in the proper sense of the term.

PHYSICAL CHARACTERISTICS OF MAN.

Erect Posture.—In the classifications of zoologists man is stated to be a *mammal* and to belong to the order of *Primates*, which also includes the highest species of apes—the gorilla, the chimpanzee, and the orang-outang. But he is at once distinguished from these and all other animals by his adoption of the erect posture in walking. This he is enabled to do by virtue of several marked peculiarities of his anatomical conformation. His head rests on his vertebral column or backbone almost at the centre of the base of the skull, whereas in other animals the point of connection is much more to the rear of the skull. The weight, therefore, of his head is evenly balanced on its support; and so systematic is this arrangement that in races, as the African, where the jaws are developed to an uncommon degree forward, the back of the head has a corresponding extension backward, so as to compensate for the additional weight in front.

His spinal column gradually increases in size toward the base, and is so disposed in curves as to break the effect of shocks, at the same time that the weight above is distributed exactly in the line of the centre of gravity. The weight of the column and the contents of the trunk are supported by a bony pelvis or basin broader and more widely expanded in proportion to the general frame than in any other animal.

Lower Limbs.—In proportion to the trunk, the lower limbs of man are longer than in any other mammal, the kangaroo not excepted. Their great length, indeed, prevents him from walking in any other than the erect attitude. They are in marked contrast with the short and bowed legs of the gorilla, chimpanzee, or orang-outang. These apes, which are the highest in the scale of animals below man, rarely attempt progression in the standing position, and when they do they are obliged to support themselves by using their forearms somewhat in the manner of crutches, placing the right and left knuckles alternately on the ground.

Feet.—The foot of man is broader, stronger, and larger in proportion to the size of the body than in any other animal, so that man can stand on one leg, which no other mammal can do. The heel is extended behind at right angles to the line of the limb, thus forming a powerful lever for the great muscles of the calf of the leg which raise the body in walking, while the bones of the great toe are proportionately strong and form the chief support upon which the body may be raised. By this disposition of parts it results that when a man stands erect a vertical line from the top of his head would pass through the junction of the head and spinal column, follow the latter to the pelvis, and be equally distributed between the hips, knees, and feet. This explains why a man can carry a weight on the top of his head easier than in any other way, as is readily discovered by laundresses and others whose duties oblige them frequently to carry burdens (*pl. I, fig. 8, b, d*).

The indirect results of the erect position have been of the utmost

importance in favoring the development of man's faculties. A few reflections will illustrate this: In the erect posture the face is placed perpendicularly under the forehead, so that the planes of both are parallel. The direction of the orbits of the eyes is thus brought to a horizontal line, which secures the widest range of vision, and the direction of the nose thus obtained gives the greatest range to the sense of smell. In proportion to the length of his body, the eyes are more elevated than in other animals, and thus he gains a wider horizon to survey. These were by no means unimportant points of superiority when man had to measure his powers in daily contests with the wild animals of the forests.

Hands.—But the most valuable advantage man derives from the erect posture is that it exempts the upper limbs from taking any part in the support of the body or in the act of progression; in other words, it gives him the use of his hands, those “instruments of consummate perfection,” as they have well been called, each elaborately framed of twenty-seven bones and numberless fine fibres of muscle and tendon. To the intelligent use of his hands more than to any other of his faculties man owes the conquests over the forces of nature on which he has reared the fabric of his civilization.

The older anatomists were of the opinion that the four feet of the higher apes were, properly speaking, hands rather than feet, and therefore they included them in a class called the *Quadrumana*, or “four-handed” animals. More accurate dissections have shown this view to be erroneous. These members possess certain muscles peculiar to the human foot and not found in the hand, and are therefore feet in the strict sense of the word, and the so-called group of *Quadrumana* has no existence. Man alone of animals has a hand.

Much of the power of the hand to grasp weapons, tools, and the like comes from the position of the thumb, which is “opposed,” as it is called, to the fingers; that is to say, it can be brought into contact with the tip of any one of them. This is also in a less degree the case with the four feet of the higher apes, but the human thumb is longer and more freely acting, and the palm is wider, thus conferring greater prehensile power on the member (*pl. I, fig. 8, a, c*).

Other Anatomical Traits.—These are by no means all the points in which man differs in his anatomy from the highest apes. Thus, in most of his varieties he has a smooth almost hairless skin, in strong contrast to their hirsute bodies. With few exceptions this is also the most marked in those branches of the human family which are least developed in mental powers. Most of the apes have a separate bone of the face called the intermaxillary bone, which never appears in the human skeleton. The conformation of the lower jaw is also characteristic. It has been said that man is the only creature which has a chin. It is most distinct in the white race, becomes less marked in the negro, and does not exist in the apes. Although man has the same number of teeth as the higher

apes, their development differs in several particulars not necessary to specify here. It is well, however, to correct a prevalent error on this point. The conformation of the human teeth has led many to found arguments that man's diet originally was, and should remain, either vegetable or animal, or of both articles. No conclusion of the kind can be derived from this point of his anatomy. His dentition, indeed, adapts him to eat either animal or vegetable food, and tribes in a state of nature are found living almost exclusively on one or the other; but the presence of grinding, cutting, and tearing teeth, equally developed, in the jaws of any animal is no proof that it is omnivorous or is confined to a special variety of food. Some monkeys have large canines, yet live on vegetables; all bats possess well-formed incisors, canines, and molars, yet some are purely fruit-eating, while others live exclusively on animal food.

Brain.—Much stress has been laid by some on the shape of the skull in man and the amount and character of the brain-substance which it contains. It is true that in these respects there are obvious differences between him and the animals nearest him in the scale of organic life, but the precise import of these differences has not been ascertained. Neither in the absolute weight of his brain, nor in its weight in relation to that of his body, does man stand at all at the head of the list of animals. Thus, the weight of a well-developed human brain is about three pounds, which is scarcely or not at all more than in a dolphin of seven or eight feet in length, and is much inferior to that of the elephant and other large animals. Considered in its proportion to the total weight of the body, the brain of man is as 1 : 37, which is inferior to that of several of the American monkeys, where the proportion is as 1 : 25, or even less than this.

Writers have therefore sought to discover the signs of the superiority of man in the conformation rather than in the amount of his brain-substance. They have said that the mental powers are dependent on the amount of gray matter in the brain. This gray matter is the exterior coating of the brain, and of course the more numerous the folds—or, as they are called, the *convolutions*—of the brain, the larger area of external surface there will be, and consequently the more gray matter. Hence the complexity of the convolutions of the brain has been asserted by some to stand in direct relation to intellectual power; and it has been triumphantly pointed out in support of this theory that the brains of the higher apes are much more simple in their convolutions, and therefore have less gray matter, than that of man. This is true, but comparative anatomy has also discovered the opposing fact that the brain of the dog has very much simpler convolutions than that of the sheep, which is notoriously a stupid animal in comparison.

Absence of Tail.—The apparent absence of a tail in man has often been mentioned as one of the obvious distinctions between him and monkeys, but this is a popular error. Anatomically speaking, man has a tail, as any one can see by looking at a human skeleton; only it is not developed

externally, and in this respect he is like several of the higher species of monkeys, which are also usually, though incorrectly, spoken of as tailless.

Besides the above anatomical, there are a number of physiological, differences between man and the apes, especially with reference to the laws of his growth, but they need not occupy us here.

PSYCHICAL CHARACTERISTICS OF MAN.

Emotions.—Although the above-mentioned traits clearly distinguish man from other species of animals, they do not establish any such marked peculiarities in him as to remove him from the chain of organic forms, in which he stands merely as physically the most complete. If he differs radically in kind rather than in degree from his fellow-creatures, it must be not in his physical but in his psychical powers, in his intellect or soul. Yet even here the researches of recent years have materially narrowed the gulf which was once supposed to separate man from beast. It has been proved beyond peradventure that the lower animals have much the same emotions as ourselves. Even such cold-blooded creatures as fishes are found to love and hate, to fear and to be able to conquer fear, with a fervor that bears close comparison with anything the records of our race can produce.

Reasoning.—The power of reasoning, and especially the faculty of forming abstract conceptions, were long claimed as the exclusive prerogatives of man. But there are any number of authentic narratives about the intelligence of brutes which seem to require for their explanation the exercise of both these faculties; and it becomes impossible, therefore, to deny their presence in some degree in the more intelligent quadrupeds. Every reader must be able to recall many such anecdotes of our household friend the dog, and a close study of so low an organized animal as the ant has revealed even more remarkable displays of intellectual action in the management of its communities.

Self-consciousness.—Several philosophers have maintained that the power of contemplating one's self as a separate existence, of *self-consciousness*, is enjoyed exclusively by man, and is the secret of his intellectual supremacy. The assertion is as difficult to prove as to disprove, as there is no action which we can name as the exclusive outcome of this feeling. If we accept, as some have suggested, suicide as such an action, then we must extend it to the brutes, for there are undoubted instances of deliberate self-destruction among them.

A careful survey of the recent studies on instinct and intelligence among the lower animals indicates that in only two directions can man claim to possess intellectual properties wholly beyond the ken of the lower animals: one of these is in his *religions*, the other in his *languages*.

Religion.—Whether we look upon religion as the recognition and worship of an unseen Power who has the ordering of the events of life, or whether we confine it to a sense of duty prompting to the perform-

ance of certain actions and to the abstention from others, in either of these comprehensive senses of the term it seems the exclusive perquisite of man, and not in any degree known or felt by inferior species.

Language.—Language, articulate grammatical speech, is not less the exclusive property of the human race. It is quite true that many of the lower species have the power of communicating information, and this not unfrequently by means of sounds. Such instances are familiar to every one. So has the infant. But the difference between this inarticulate, interjectional mode of utterance and spoken language is a radical one, and vindicates for man the possession of certain powers found nowhere else in nature. As the eminent anthropologist Dr. E. B. Tylor has well remarked : “Man’s power of using a word, or even a gesture, as a symbol of a thought and the means of conversing about it, is one of the points where we see him parting company with all lower species and starting on his career of conquest through higher intellectual regions.”

Causality.—Employing a term drawn from the vocabulary of metaphysics, we may define the fundamental difference between the mind of man and the intelligence or instinct of the lower animals to be that man has and constantly exercises the perception of *causality*. He recognizes and governs his actions by the observed relations of cause and effect. This the highest apes do not attain to in the most simple matters. Thus travellers in Central Africa tell us that in the cool nights there the apes will be seen watching the travellers keep up their camp-fire with sticks of wood, and if the men withdraw the apes will gather around the fire and enjoy the warmth hugely, but they never attain the degree of intelligence to lay wood on the fire to keep it burning. The relation of cause to effect in this simple act escapes them.

Manufacture of Tools.—For the same reason, no brute ever fashions a tool or weapon for its future use. Some, indeed, make use of such when ready to their hand. Thus, a monkey has been known to select a stone of convenient shape for cracking its nuts, and even to hide such a stone to preserve it for future occasions ; the gorilla and orang-outang will tear limbs from trees or pick up sticks to use as weapons ; and other species will hurl stones or nuts as missiles at their enemies ; but in spite of this familiarity with the use of ready-made instruments, no instance can be cited where even the most advanced of the inferior animals fashioned a single tool. When it is remembered that even the very lowest tribes of men make tools of remarkable ingenuity, and that in the most remote geologic age in which we find the slightest traces of man he both knew the use of fire and manufactured weapons, these distinctions mark him off broadly from all other living creatures.

THE UNITY OF THE HUMAN SPECIES.

Definition of Species.—As the above considerations demonstrate that man has a number of traits which mark him off as a wholly distinct

species, the question arises, Must we go farther and erect him into a genus, including a number of species? In other words, Is there but one species of man or are there several?

Some years ago this question assumed a certain degree of political importance in the United States, and several ambitious treatises were published to prove that the white and the negro races belong, zoologically, to different species. The aim of these efforts was, however, rather to defend a theory than to arrive at the truth.

Owing to the general acceptance of the modern doctrines of the evolution and retrogression of organic forms, the definition of species is by no means so rigid as it was formerly. Indeed, it is no easy task to state precisely what we mean by a species. We can at best say that it includes all members of an organic group who have an obvious similarity between themselves, and who have been, or may be supposed to have been, descended from the same ancestral pair.

Such general similarity exists to a remarkable degree among all races of men, especially when we reflect to what extremely different food, climate, and surroundings they are subjected, in these respects far transcending any other animal. They agree not only in all those marked traits which have been mentioned above as distinguishing them from other species, but in a vast number of small and unimportant characteristics, such as we cannot imagine would have been acquired in any other way than by inheritance from some common ancestor.

This is observable in both physical and mental peculiarities. It has been repeatedly noticed by close observers that the physical differences of races are very much less in infancy and youth than in later life. The hue of the new-born babe in the colored races is much lighter than that of the adult, and in the shape of the head and the features of the face the babes of all races are strikingly alike. The racial differences only gradually assert themselves. From the same street in Pekin we could select a full-blooded Mongolian child who would pass in Brazil for the offspring of a native Indian, and another from the same place domiciled in an Irish shanty would be taken for a son of the soil of Erin.

Every intelligent European who has become intimate with the representatives of other races, be they of any clime or color, has discovered in them the same sentiments and tastes, the same emotions and passions, as in his fellow-countrymen of the like grade of culture; wherever he wanders, the highest type of man is ever forced to recognize, in all tribes who claim the name, his fellow-beings—men like himself, heirs of the same mental powers, brethren of the same household.

Fertility of Crossings.—This conclusion is confirmed by the well-ascertained fertility in the marriages between different races and in their offspring. This was long set up as the test of the unity of species. It was maintained that crosses between different species are uniformly barren, or at least that the offspring of such crosses are always sterile.

This position has now been abandoned. Though it holds good as a general rule, it is far from being a law of nature. Several of our domestic animals are undoubted products of the crossing of several wild species; for instance, the dog, the hog, and the ox. So far, however, as the rule goes, it is in favor of the unity of the human species. All its varieties blend in fertile unions, and produce offspring who in their turn are as fertile as were their parents, when living under equally favorable conditions. The examples which from time to time have been brought forward to support the contrary view have, on investigation, turned out to be errors of observation.

Parallelism of Development.—The theory of unity is also supported by another line of facts whose correct appreciation is of the highest importance, not only to ethnology, but to the history of civilization; and this is, the parallelism which prevails in the industrial and ethical development of the human race in all ages and in all parts of the globe. Turn where we will in history or in geography, we find nations of the same grade of culture, no matter of what race, presenting the most extraordinary coincidences, not merely in their arts, customs, laws, and social arrangements, but even in the toys of their children, their purely imaginary tales of their gods, their religious symbols, their folk-lore, and the stories they invent for mere amusement. There are yet some authors who strive to explain these coincidences by the hypothesis of historic transmission. When they find, for instance, as is the case, the story of "The House that Jack Built" in Europe, India, Caffir-Land, and Brazil, told in an original version by the natives of each land, they maintain that it must have descended from some remote period when the ancestors of these widely-dispersed tribes were in geographical relations. But this and the hundreds of instances of a similar kind which have been collected by writers are to be attributed to that oneness of mental nature which more than anything else proves that man is of one blood, and in his psychological processes is everywhere the same.

ANTIQUITY OF MAN ON EARTH, AND HIS FIRST HOME.

Having established the probability that man is of only one zoological species, we may next proceed to inquire when and where he first appeared on earth. Not that it necessarily follows that he appeared at one place only. The unity of a species does not require this. Whatever Power brought it into being at one place might have also acted with the same result in several. Naturalists do not insist that all the members of a species shall be descended from one pair of ancestors. Were it to happen that some inventive resident of another planet should devise an aerial car and pay us a visit, and we should find that he was in all respects like one of ourselves, we should unhesitatingly claim him as of the same species, although there could be no talk of community of ancestry.

Relation of Man to Other Fauna.—This consideration renders the question of the whereabouts of man's first appearance somewhat more

involved. On the other hand, it is greatly lightened by the acknowledged fact that in the advent of organic forms on earth it is a uniform law that they bear fixed relations to the forms around them. Their existence, indeed, is conditioned by the presence of a number of similar forms anterior to them. Hence we need only look for the first abode of man in some locality which was peopled at the time by the highest mammals, those placed next to him in the zoological scale ; that is, the man-like apes. The climatic conditions which best suited their life were also such as were most favorable to him in the infancy of the race.

But this inquiry carries us far afield, for we cannot confine ourselves to the physical geography of the globe as it now is, but must look at it at the period when the earliest signs of man's occupancy present themselves.

Here Geology must be asked to the assistance of Ethnology, for the time is past when we can suppose that the period of the existence of man can be measured by a few thousand years. Evidence that cannot be controverted proves that tens of thousands of years ago he, or some creature possessing faculties like him, roamed widely over the face of the earth, then under climatic conditions strangely dissimilar from those with which modern geography is familiar.

A very brief sketch of the doctrines of Geology may make this branch of our subject more easily comprehended. Students of that science divide the rocky strata which make up the earth's crust into Primary, Secondary, and Tertiary strata, the Primary being the oldest, the Tertiary the most recent. Some, indeed, consider the Tertiary as reaching down to and including the present age, but most are of accord in calling this latter by a different term. By these the Tertiary age or epoch is subdivided into three minor ages—the Eocene, which is the oldest ; the Miocene ; and the Pliocene, which is the latest. After this is placed by some the Pleistocene, by others the Quaternary, epoch—terms often used as almost synonymous to designate the period intervening between the close of the Tertiary and the beginning of the Geologic age in which we live, this being known as the Alluvial or Actual age.

Climate.—The climate of the world differed exceedingly in these various epochs. Thus in the Miocene and early Pliocene, Greenland enjoyed as mild and as balmy a climate as the Madeira Islands or Southern Florida does to-day. Tropical animals, as the rhinoceros, the elephant, and numerous apes and monkeys, found a congenial home where now the raw climate of the British Isles will not admit of the ripening of Indian corn.

Glacial Epoch.—But at or near the close of the Tertiary period a tremendous change took place, the most extraordinary known in the geologic annals of the world. The genial warmth disappeared, and in place of it vast sheets of ice descended from the polar continents of both the Arctic and Antarctic regions, and covered the greater part of the land to the thirty-fifth or fortieth parallel with a solid sheet of snow and ice to a

depth of thousands of feet. The continental areas of the globe were greatly changed; a land-bridge which had connected North America with Northern Europe was wholly torn away; the ragged edges of Norway and the coast of Maine remain as proofs of the mighty power of the ice-mass, while the Great Lakes and Prairies of Central North America and the Pampas of South America are so many witnesses to its effect on existing land-areas.

The ice-sheet was not permanent during its stay. Twice, and perhaps three times, it somewhat capriciously retired to the far north, disappearing rather suddenly, and then slowly creeping down again into latitudes which we now call temperate, freezing them with the cold of an Arctic winter which knew no summer. The comparatively mild periods between these visitations are called the "Inter-glacial periods."

First Appearance of Man.—The particular interest that these geologic events have to us in this connection is that it was either immediately before, during, or else immediately after this Glacial period that man first appeared on the earth, or at least it is in the strata of this age that we find the first unequivocal traces of his presence. Some, indeed, have maintained that evidence of his handiwork has been taken from strata of the Miocene period, but the most careful writers on the subject have not as yet conceded that this is established. There is, moreover, an inherent improbability from analogy that any one species has maintained so complex an organism as man's for so long a period. The evidence that assigns him an appearance on earth in the Inter-glacial or the immediately Post-glacial period has received the sanction of the most eminent geologists.

But when we speak of "man" as then existing, that word must be understood in its widest sense, embracing any animal which had the faculty of building a fire and fashioning ever so rude a tool or weapon from a piece of stone; for that was all the ability that we can assign to those very early representatives of our species. It is not likely that they had any religious sentiments or that they were capable of articulate speech. An intellectual status as low as this appears to be indicated by the remains of their art and of their bony skeletons which have been discovered. A brief description of these ancient relics will illustrate this.

The Earliest Stone Implements.—Most of the earliest specimens of man's ingenuity are of stone; some few are of bone. Doubtless, he at that time also made use of wood, but his works in that material soon perished. The stones he chose were of a size convenient to hold in the hand, and it seems probable that the hands of these primitive mechanics were smaller than ours, about the size of a boy's. The pieces of flint and argillite selected were rudely chipped by striking one against another, and thus brought to an edge and point. In this form they would serve as a more effective weapon, tool, or utensil, for all of which purposes doubtless they were intended. Frequently one side or one end only is chipped, the others being left in the natural state. Such instruments are called

"hand-stones," or celts. The chips flaked off in their preparation have also been collected, sometimes in considerable quantity, showing that the manufacture of these implements was carried on with diligence (*pl.* 1, *fig.* 10).

Use of Fire.—Other evidence proves that these first settlers knew the use of fire. Flints are found that have been subjected to the fire for the purpose of breaking them into small and angular pieces, and even the charcoal and ashes of some of these ancient hearths have been exhumed in deposits which competent geologists place as remote in time as the Inter-glacial epochs. In and around the remains of these early camp-fires the bones of animals, some of extinct species, broken to extract their marrow or artificially sharpened to a point, indicate that these primitive tribes were hunters and fishers, that they cooked their food, and that they had some beginnings of a social life.

Drift and Cave Men.—These earliest tool- and fire-using animals, who are generally included in the species man, although undoubtedly much inferior to any tribe now known to us, are called distinctively the "River drift" and "Cave" men, because their relics are found for the most part in the beds of drift gravel deposited in the ancient river-beds of various streams, as the Ouse in England and the Somme in France; and also in the caves of France, Belgium, England, and other countries, where they have continued undisturbed and covered with the deposits of later formations. By some writers the Drift men are considered an older generation than, or even a different race from, the Cave men, but this is not generally accepted.

This inceptive period of human art is called the *Palæolithic* or "Old Stone" age, or the period of rough stone implements, the characteristic feature of its remains being that they are of rough, unpolished stone, the simple art of smoothing and sharpening one stone by rubbing it against another being unknown or indifferent to these workmen (*pl.* 1, *fig.* 12).

Their Distribution.—The most remarkable fact about these Drift men was their extremely wide dispersion over the earth's surface, and consequently the great length of time that they must have lived upon the globe. They must have been very ill provided with means of travelling, as they had no domestic animals and probably no boats; yet their characteristic relics have been disinterred from the caves and river-valleys of Western Europe, from the old gravel-beds of Palestine and Upper Egypt, from the laterite formations at the foot of the Ghaut Hills in Southern India, at a depth of forty feet below the surface in the diamond-diggings at the Cape of Good Hope, at an equal depth under the Post-glacial gravels near Trenton on the Delaware River in New Jersey, in the deposits on the upper terrace of the Mississippi north of St. Paul, a hundred feet below the surface in the auriferous gravels of California, in the Drift and Glacial deposits of Chili and Buenos Ayres, and elsewhere. Collections taken from these various localities offer so few differences in the specimens that but for the character of the material used they might be attributed to any one of the list.

Age of Oldest Remains.—This extraordinarily wide diffusion of the early race can only be explained on the supposition that it occupied the habitable land of all the great continents for a very long period; and hence we are obliged to place the first appearance of man at a point of time far, very far, beyond the furthest limit of history or tradition. Geologists have not hesitated to make calculations as to when this point was. Supposing it to have been at or about the Glacial period—which for many reasons is probable—the inquiry has been put, Did this unparalleled climatic event in the history of the world leave behind it the conditions for certain progressive changes which have been going on ever since, and which we may take as chronometers of geologic time? Several such might be named, the most conclusive of them being the gradual erosion of river-valleys; as, for instance, the action of Niagara Falls in slowly cutting its deep channel westward from Lake Ontario. This we know must have entirely taken place since the close of the Glacial period, for the chain of Great Lakes themselves is one of the effects of glacial action. There are a number of other examples of the same kind in the two hemispheres which offer the data for such calculations. The conclusions reached by different students of the matter have, however, been discrepant. Some place the close of the Glacial age in North America as recent as thirty-five thousand years ago, while an eminent French geologist calculates that in Western Europe its final recession cannot be less than two hundred and forty thousand years from us. To explain the problems of Ethnology we should be better accommodated with a period of the latter length than of the former. Even that would be but a very small fraction of the duration necessary to explain the transformations of the earth's crust with which Geology deals.

First Habitat of Man.—With these facts in mind, we are better prepared to approach the question as to *the first habitat of man*, and whether he had more than one. His traces are found in remotest ages on the areas of all four continents, but not on the oceanic islands. Many of these were not peopled at all even within the historic period, as the Azores and Cape Verde, Iceland, the Bermudas, and many in the Pacific. All the great island-world of the latter received its population within a few thousand years, as language and tradition prove. Australia is in the same case, and, moreover, its fauna is in development very much in arrears—more akin to that of the Tertiary epoch than that of any other area. This is also an objection to supposing that any part of the American continent could have been the birthplace of the race. Its highest mammals, living or fossil, are far behind those of the Old World. For instance, it has never possessed a single monkey with the same number of teeth as man, not one that is without a tail, not one that is classed by naturalists with the anthropoids, or man-like apes. Moreover, the earliest relics of man's industry found in America, though not far from the same Geologic age, are certainly a shade higher and indicate a slightly more developed culture than the oldest from European strata.

At the period we speak of, just anterior to the Glacial epoch, Northern Europe, Northern Asia, and Northern Africa (that portion of it now included in the Sahara Desert) were covered with water. The Persian Gulf, the Caspian and Black Seas, were parts of a broad arm of the sea which connected the Indian Ocean with what is now the Baltic and the North Sea. A continental area connected what are now the territories of the British Isles, France, the Iberian Peninsula, Italy, and Morocco into one region. Its climate was warm and moist; its fauna and flora were tropical in character; and among the former man-like apes of large size, taller and stronger than any now in existence, found a congenial home. Their fossil remains have been exhumed of late years near Madrid, in the valleys of the Pyrenees and elsewhere in France, in Tuscany and other localities in the Italian Peninsula. Within this same region have been discovered those fragments of the human skeleton which geologists pronounce the most ancient yet brought to light, and anatomists consider the most primitive in character. It seems therefore probable that man originated somewhere on that former European continent, which, it will be observed, differed very widely from modern Europe in size, outline, and climatic conditions.

As no such connected series of facts has yet been discovered to show a similar development in Eastern Asia or Central Africa, we have no reason to suppose that there was a separate centre of origin in either of those localities. With the light which science at present sheds upon the subject we must conclude that man had but one original abode, and that was in some part of Western ancient Europe (comp. p. 240).

THE ORIGIN OF MAN.

Having in a measure defined both in time and space the first appearance of man on our globe, we are prepared to go a step farther and inquire how he came there—what natural or divine forces brought him into being.

The answers to these questions which have been offered may be arranged in three classes:

The first explains man's presence by a special creation, by a direct fiat of the Almighty, which brought him into existence complete in all his faculties. Almost all religions teach this doctrine in one form or another. As it removes the inquiry from the domain of research to that of belief, scientific men do not generally rest satisfied with this reply, but suggest other possible theories of man's origin.

Theories of Origin.—The first of these is by *heterogenesis*. By this is meant that the parents of one species might bring forth offspring so widely different from themselves that this offspring would become the starting-point of what would be virtually another and a new species. We all know as a familiar fact that no child is precisely like its parents. Sometimes the difference is very marked, both in physical appearance and mental disposition. In many of the lower animals and under certain

conditions this discrepancy is accentuated to such a degree that we could not believe parents and offspring to be of the same race had their life-history not been traced. It is utterly inexplicable how some men of the most brilliant genius come to be born of a line of most commonplace ancestors. So, it is argued, there is nothing incredible in the supposition that a child capable of inventing a tool and building a fire could have been born to an anthropoid ape; and these two advantages seem to have been all that the earliest men possessed above the highest mammals. With them they were qualified, by slow degrees but surely, to conquer the world.

The second theory is that by *evolution* under known laws. This is the "Darwinian Theory," as it is called, and has received a great deal of attention. It is a part of the general theory of the evolution of organic forms which Darwin extended to both the animal and vegetable world. As applied to the human race, he developed it quite fully in his celebrated work entitled *The Descent of Man*, and his suggestions have found favor with many ethnologists.

Darwin's theory is sometimes stated to be that man is descended from the monkey or one of the apes. This is an error which he himself pointedly corrected. His conclusion was that "man is the descendant, with other species, of some ancient, lower, and extinct form." No competent anatomist to-day would maintain that the human species was or could be the offspring, however remote, of any other known species of animal.

Arguments for Evolution.—The arguments for the development of man from a lower form are drawn from several sources. First, we may observe that the most ancient osseous remains of man, as well as the lowest existing varieties, have more points of similarity with the next highest mammals than have the present highest types of the race. The skulls exhumed from the ancient undisturbed strata of Western Europe have thick walls, heavy jaws, the lower half of the face prominent, but the chin and forehead retreating, and the brain-capacity small. The tibia or shinbone is flattened instead of triangular, the bone of the arm is perforated at its extremity, the areas of the insertion of muscles are rougher and more prominent, and in other respects the bones assimilate more closely to those of lower species. It has even been confidently asserted, on the evidence of two very ancient jaws, found one in the cave of La Naulette, Belgium, the other in the Schipka cave, Moravia, that there was such a marked deficiency in the muscular attachment of the tongue that articulate speech could scarcely have been possible to the creature who had such an inferior maxillary. That there has been a positive advance on the structure of these early forms cannot indeed be denied.

Rudimentary Organs.—Another argument of the evolutionists is the presence in the human body of a number of so-called "rudimentary" muscles and organs. These are structural elements which in man do not serve any purpose, but which are important parts in the economy of some of the lower animals. It is believed that they have survived in

man owing to the laws of transmission, although in an atrophied condition and without any application to his present wants. There are many such, as the muscle with which some persons can move their ears and scalps; the semilunar fold of the eyelids, which is a diminished representative of the "nictitating membrane" of birds; the vermiform appendix of the small intestines; and a number of small muscles occasionally found in the human subject. No plausible explanation of these relics of a lower anatomical structure has been offered except that they are the traces of an inferior ancestry.

Reversions.—Further evidence of a similar nature is that derived from the expression of the emotions, which presents striking similarities in man and animals, and also in instances of what is called "reversion." The latter includes those cases where children develop the physical or mental traits of brutes, diverging far from the normal standard of the human race.

Embryology.—Great weight has also been attached to the argument from embryology. At a very early period of fœtal life the human embryo does not differ from that of any other vertebrate animal. Later on, it resembles certain lower forms when adult; and it is only at quite a late period in its history that the young human being presents marked differences from the young ape. In fact, it is not much of an exaggeration to say that in its uterine existence the human child develops gradually through the various lower orders of organic forms until it reaches the highest. The inference is close at hand that the development of the embryo portrays within the limits of nine months the life-history of the race through the countless ages of geologic time.

Such, in a few words, are the arguments of the evolutionists. But they are by no means secure from criticism. Although many anomalies in human anatomy have been shown, the "connecting link" between man and any lower species has never been pointed out. It is extraordinary, to say the least, that of the millions of families scattered all over the earth, not one has been discovered lacking the true specific qualities of man as laid down on a previous page. Nor has the delving of geologists in the older strata been more successful in this direction, though pursued with the greatest ardor. The facts from embryology and from the presence of rudimentary parts may be capable of an entirely different interpretation, as some able anatomists have pointed out. An unbiassed mind, therefore, while acknowledging that the Darwinian theory is the most plausible hypothesis yet offered to account for the facts stated, will not accept it as a completely demonstrated law of organic life as applied to man.

INFLUENCE OF PHYSICAL SURROUNDINGS.

Man is not only the most highly organized of all animals, but also the most cosmopolitan of all. So wonderfully adjusted is his structure that he can live and thrive in a range of two hundred degrees of temperature.

Nothing like this can be said of any other vertebrate. He also resides with equal comfort in valleys far below the sea-level, as that of the Dead Sea, and on table-lands and mountain-sides fifteen to twenty thousand feet above the sea, as in Thibet and South America, where even an animal so tenacious of life as the cat perishes. The tribes of some regions are exclusively vegetarians, in others they eat nothing but animal food; during the bitter winters of Patagonia they go almost naked, and under a tropical sun many are constantly clothed. There is little difference in man's vigor whether he is roaming over the arid plains of the Sahara, where rain never falls, or in the mountains of North-eastern India, where the annual rainfall is nearly three hundred inches.

Adaptability of the Species.—Owing to man's extraordinary powers of accommodation these diverse conditions of existence exert a remarkably small influence either on his mental or bodily nature. The Eskimo amid his wild wastes of snow, and in spite of the depressing influence of the long polar night, is more cheerful, garrulous, inventive, and happy than many of the tribes of the most favored climes. The school of ethnologists who endeavored to explain man's physical differences, and to trace the course of his civilization, principally by means of climate and his other physical environments, has now fallen to the rear. It is recognized that man is stronger than his surroundings, and that their influence upon him is far from that of master (comp. p. 396).

Effects of Climate on Physical Vigor.—With regard to climate—which term is generally meant temperature and moisture—it cannot be said that it exerts any pronounced effect either on the bodily or mental powers after the system has become “acclimated.” This process may take, indeed, several generations. It is well known that the children of European parents in India are feeble and short-lived; but this is not owing to any inherent inability in the European race to support the climate of the country, inasmuch as a large portion of the natives are pure Aryans, descended from the same remote ancestors as the English themselves. The languor and love of idleness which we often associate with a tropical climate are contradicted by the colossal architectural works which we find in the tropics of both hemispheres, and by the exceedingly laborious lives of the inhabitants of many tropical regions. The porters of Calcutta and Madras and the dyewood- and mahogany-gatherers of Central America are generally men of exceptional vigor, with whom it is no unusual task to labor at their onerous employments twelve to fourteen hours a day with the thermometer at 100° F. in the shade.

On the Duration of Life.—Nor does climate seem to exert any very positive impression on the duration of life or the power of reproduction in the human race. In the hottest portion of the globe, the region lying along the shores of the southern extremity of the Red Sea, the natives are generally long-lived and have numerous progeny. It has been asserted that the tribes of the extreme North are less fertile and are

rather short-lived, but it appears from more careful observations that their marriages have an average fertility, though the infant mortality is excessive, either from carelessness or infanticide, and that want and exposure are the common causes of the death of the aged—all preventable causes.

On the Height, Strength, and Weight.—The qualities of height, strength, and weight are also largely independent of climate and surroundings. Within the limits of British Guiana we find the tall, symmetrical, and powerfully-built Carib and the weak and stunted Warrau, both natives of the spot for time out of mind. Many of the Polynesians, hemmed in on their small islands, are described as offering the finest examples of splendid physical form.

Effects of Elevation.—Elevation probably exerts a more direct influence on the physical structure than climate. The rarity of the atmosphere requires a greater expansion of the breast to admit the proper amount of oxygen to the blood, and the unusual development of the thorax leads to corresponding changes elsewhere. A striking example of this is furnished by the tribes which for generations have lived on the high lands of Peru and Bolivia with a minimum elevation of ten thousand feet. They are remarkable for their long bodies, broad shoulders, deep and high chest-walls, and disproportionately short legs. These characteristics are transmitted, and remain in their descendants even when for generations they have lived in the lower levels along the seacoast.

LIMITS OF VARIATION IN THE SPECIES.

The folk-lore of all nations tells about giants and dwarfs, and up to a recent date sober writers were willing to accept some of these tales as founded on fact. Now, however, it is well ascertained that the limits of variation in the human species are much narrower than those of any species of domestic animal—the dog or the ox, for instance. It is a still later result of investigation that these variations are not characteristics of races or sub-species, but rather of tribes and localities.

Height and Weight.—This is especially true with regard to height and weight. Thus in South Africa we find the Bushmen, usually quoted as the smallest of the human family, having an average height of only 144 centimetres (56.7 inches), while adjacent to them are the Caffirs, of such unusual stature that the average of ten of them was 183 centimetres (72 inches), both tribes belonging to the Negro race. The same contrast reappears among the Malaysians. The Asiatic Malays are quite short and feeble, their average height being 154 centimetres (60.6 inches), while the Polynesian Malays of some of the Pacific Islands are among the largest of men, running up to the extraordinary average height of 193 centimetres (76 inches). The Obongos of the Soudan and the Lapps of Northern Europe are scarcely, if at all, taller than the Bushmen. The Eskimos are also quite short, but it would be a hasty generalization to

infer, with some writers, that the extreme cold of the high latitudes necessarily lowers the stature, as the nation of the white race which has the highest average stature is the Scandinavian; whereas the Veddahs of Ceylon, a wild tribe said to be of Aryan descent, are small and weak.

Height, weight, and muscular power can be developed within the limits of any race by favorable surroundings. During the Civil War in the United States measurements in these directions were taken in over a million subjects belonging to the white, the black, and the red races. The interesting result was obtained that residence on this continent—at least on the northern portion of it—tends to develop all the races in all these respects. The descendants in the second or third generation of European settlers are taller and heavier than the average Englishman, Frenchman, or German; the recruits from the Mississippi Valley were taller and stronger than those from the coast; but both were surpassed in these respects by the native race of the soil, the Iroquois Indians, some five hundred of whom were included in the comparison. The tallest soldiers were from the States of Kentucky and Tennessee. They measured an average of 176 centimetres (69.3 inches), while the Iroquois braves reached to an average of 179 centimetres (70.5 inches).

All these statistics, it should be remarked, apply exclusively to the male sex. The female sex displays very much less variation. In the shortest and weakest races the females are physically equal to the males, and indeed often surpass them. On the other hand, where the stature of the males is decidedly beyond the normal the female departs little from it. Hence on measurements confined to the female sex alone the limits of the variation of the species in these respects are more circumscribed.

Epoch of Puberty.—The attainment of the epoch of puberty and of that of completed growth are other points in the first rank of physiological importance in which there is considerable variation. In general terms, it may be said that puberty arrives in the tropics about three years earlier than in high northern latitudes. That this difference is closely dependent on temperature seems proved by the fact that healthy children of parents from the temperate zones ripen more quickly in the tropics, without regard to race, while the reverse is observed in the negroes brought from Central Africa and domesticated for generations in much colder latitudes.

Completed Growth.—The epoch of completed growth appears to bear a fixed relation to the height. The taller the individual the longer he will require to attain his full stature. This is not so natural a consequence as it may seem at first sight, as the rate of growth is by no means uniform, most of the height being attained long before the growth ceases. By a comparison of the statistics obtained during our war with similar European tables, it is shown that in Central Europe the growth generally ceases by the twenty-first year, while in this country it continues to the twenty-fourth year, and not rarely to the thirtieth.

Longevity.—With regard to longevity there is a wide variation in families in the same community, in social classes, in the sexes, and in localities, but probably not in races. The normal average age of man was calculated by the eminent physiologist Flourens to be about one hundred years. He based his estimate on the relation which the average length of life in the higher mammals bears to the period of utero-gestation, to the time required to complete their growth, and to their attainment of puberty. While thus his conclusion has strong foundation in analogy of other species, it is far from holding true for man—either, as Flourens maintained, because he does not live the life best suited to him, or for some unknown reason. Searching inquiry where careful records have been kept has constantly reduced the number of alleged centenarians. The average duration of human life is about the third of a century, and this appears to hold good in all races except where interfered with by preventable causes, as habits, unwholesome food, epidemics, and the like. Probably as striking an example of authentic longevity in a community as can be adduced is that recorded by a visitor to one of the missions of Lower California. In a village of about two hundred and fifty souls he found six persons over one hundred years, all in fair possession of their faculties, and their ages guaranteed by the records of the mission. They all belonged to the pure native stock.

Tolerance of Disease.—In the tolerance of disease there would seem at first sight to be a wide diversity in the races of man. For instance, a disease so little feared in most civilized countries as measles becomes a frightful pestilence among some savage tribes. By it alone in some of the Polynesian islands almost the whole native population has been swept away. Among the Central American tribes it has been more fatal than the smallpox. But medical science explains away this seeming intolerance of disease in these lower races. The mildness of these epidemics in civilized communities arises from the fact that through an exposure extending over many generations all those peculiarly prone to their poison have been extinguished, and those who survived were such as transmitted to their descendants a certain insusceptibility to the poison of the epidemic. That this is the correct solution, and that this tolerance is not a matter of race, was proved sadly enough in the case of the measles by the example of the Faroe islanders. This remote group to the north of Scotland, peopled exclusively by whites, had never, so far as known, had this disease brought to its shores until in the last century, when it was imported on a fishing vessel. It immediately became epidemic on the islands, attacking adults and children indiscriminately, and caused a mortality comparable to that which resulted from its introduction among the Maoris of New Zealand.

Fertility of Marriages.—Finally, with reference to the fertility of marriages it has not been shown that any material differences exist between different races. The prevailing notion that the lower races, as the American Indians, are less productive than the higher, has

arisen from not taking into account the prevalence of abortion and infanticide, the marriage of girls of too tender an age, the early exhaustion of women by severe labor, and like incidental causes, which certainly limit the families, but do not tell against the fertility of the race when under favorable circumstances. The American Indians on the reservations have families quite as large as their white neighbors. Even the products of crosses between races are entirely fertile, although the contrary has been repeatedly stated.

Other Variations.—There are other variations sometimes referred to race, but which belong properly to nations, or even to limited branches of a nation. Such is the obliquity of the eye among the Japanese and Chinese. It is esteemed by them a mark of beauty (*pl. 1, figs. 1, 2, 3, 4*). It is, however, neither coextensive with the Mongolian race nor confined to it. The traveller D'Orbigny met a tribe in South America with just such Mongoloid eyes. The shape of the orbit does not cause this peculiarity, as it depends entirely on the disposition of the soft parts of the face.

Not less singular is the extraordinary development of the nates in the Hottentot women, sometimes to such an extent that they cannot rise when in a sitting posture (Sir Andrew Smith), but, like the foot of a Chinese woman (*pl. 1, fig. 5*), there is reason to believe this is the product of sedulous cultivation, aided by transmission.

THE PRIMITIVE CONDITION OF MAN.

Popular Opinion.—It will be seen, from what has been said, that the general argument of evolution or development, whether this is taken in its zoological or merely in its historical sense, assumes that the primitive condition of man was an exceedingly low one, removed but one step above that of an intelligent brute.

This is a scientific inference only, as no such condition of man is known to history, and no tribe has ever been found even nearly approaching such a low stage of culture. Moreover, it is in contradiction to the generally-accepted opinions on the subject both among cultivated and uncultivated peoples. In the traditions of almost every nation we hear of an Age of Gold, an Arcadian or Saturnian epoch, during which their remote ancestors lived in peace and joy, and were men in all respects of mightier powers than their descendants. From this high estate they fell through some act of disobedience to the supernal powers or through the machinations of some potent enemy.

When these mythical conceptions had in a measure lost their hold upon the cultivated fancy, they were replaced by the dreams of philosophers, who pictured the natural condition of man as one of harmless happiness, culling the fruits of the forest for his food, and ignorant of laws or morals because it had not entered his mind to go counter to their principles or to injure his fellow-mortals.

Scientific Opinion.—The assumption of science is very different from

either of these pictures. It regards early man as a savage lower than the lowest known to us—a brute without speech, without ambition, without religion. He was utterly dependent on his natural surroundings and the slave of his appetites and lusts. Family life he had none, nor the sense of shame, nor the appreciation of the beautiful. Less cleanly than many beasts, far less warm and fixed in his affections than many, he was content with his condition, and felt no inborn longings for anything higher, anything better.

Argument from History.—The accuracy of this portraiture is guaranteed by many lines of argument, which may be briefly mentioned. First is the historical. The records of every nation carry it back to a period of barbarism. The story is everywhere one of improvement, beginning with arts which are rudimentary and an imperfect social condition. Continue this universal statement by the method of analogy, and we reach a condition of culture indefinitely low as that of the earliest pre-historic society.

Arguments from Archæology.—These results are justified by archæology. We have already seen that this begins with a period when a rough stone and a club were the highest expressions of human art. The relics of the Cave men in the caverns of Belgium prove that they lacked the neatness of the fox, as they allowed the remains of their repasts to lie where they fell, not even cleaning the holes that served them as dwellings. The customs of marriage and descent in the oldest and rudest tribes render it probable that the relations of the sexes were at first very loose, that there was not even that permanent pairing seen among most birds, and that unions often began with violence and continued with the slavery of the female.

Argument from Language.—Investigations into the origin of language testify to the same effect. Wherever commenced, they point back to a period when human speech was a series of cries, each a sentence in itself, without syntax, and limited to the concrete needs of a wholly physical existence. These interjectional cries constitute the radicals or root-words of languages. They are not identical nor numerous, but by a series of extraordinary devices, never the same in any two examples, nations have built upon them all the stately structure of vocal expression. We have even seen that the jaws from the Schipka cave and the Trou de la Naulette have been believed to cast doubt on any power of articulate speech whatever in the early ancestors of man. (See p. 30.)

From the Tendency to Retrogression.—That the natural condition of man was an exceedingly low one seems further to be indicated by his strong tendency to retrogression. History is full of examples where nations, after having gained a certain degree of civilization, lost it far more rapidly than it had been acquired. Their arts and laws were forgotten, and their descendants, as in Asia, Egypt, and Central America, wander through the ruined halls of their ancestral palaces without a glimmer of tradition as to their past greatness. Nor is modern history

lacking in similar instances. Many of the Spanish and Portuguese in America have sunk to the level of the lowest natives. St. Hilaire found some in Brazil who had lost the knowledge of money and the taste for salt; Von Tschudi discovered pure-blood Spaniards in the remote valleys of the Peruvian Andes who had forgotten their native tongue, whose religion had degenerated into the grossest superstition, and who in no respect were superior to the natives about them. The Portuguese of the Gold Coast have become as low as the Negroes in moral qualities, and beneath them in courage; and it is generally conceded that the Norwegian colony in Greenland in the twelfth century was amalgamated and sank into the neighboring Eskimos.

In this respect there is little difference in races. The fall is almost as rapid in the white as in any other race. The passion for hunting and fishing, even in the most civilized nations, indicates how strong remains the tendency to forsake a cultured for a wild life, and how powerful are the impulses inherited from ancestors who for hundreds of thousands of years, perhaps, subsisted by these means.

From Osseous Remains.—To support these lines of argument, the oldest bony remains of man indicate an inferiority to the present race. The most authentic of these are—

1. *The Neanderthal Skull* (*pl. 2, figs. 2-4*).—This was found in a cavern near Düsseldorf in 1856, in a diluvial stratum, and associated with bones of extinct species and parts of a human skeleton. The character of this skull is most striking. There is no forehead, the superciliary ridges are excessively developed, the bones are thick and heavy, the head elliptical, the sutures are nearly all consolidated, and the occipital region very protuberant. The head is therefore notably long in proportion to its width, or “dolichocephalic.” The capacity is 1220 cubic centimetres.

2. *The Skull from Engis, Belgium* (*pl. 2, figs. 6, 7*).—This is believed to be of later date than that from the Neanderthal cave. It also is markedly oblong, with prominent superciliary ridges and prolonged and rather flattened occiput. It undoubtedly belonged to a low type of humanity.

3. *The Jaw of La Naulette* (*pl. 1, fig. 7*).—This was also discovered in Belgium, in the cave called “La Trou de la Naulette,” near Dinant. It is a part of a solid and heavy lower jaw, retreating like that of an ape. The molar teeth, instead of diminishing as they proceed toward the angle of the jaw, as in man, increase in size. At the median line of the internal curve of the bone, where in man there is a small protuberance serving for the attachment of an important muscle of the tongue, the genioglossus, there is, instead of this protuberance, an actual depression, as in the monkeys. This has been held to indicate that the owner of this jaw could not articulate any known form of human speech; and this human bone has been pronounced “the most ape-like that has ever been discovered” (De Mortillet). It was asso-

ciated with remains of the elephant and rhinoceros, and belonged therefore to a very ancient type of man.

THE SUB-SPECIES OR RACES OF MAN.

If we accept the conclusion which has been offered in the previous pages, that all human beings belong to one zoological species, and are descended, if not from one pair, at least from a small group of similar animals occupying a limited territory toward the close of the Tertiary epoch, we are next called upon to explain the very obvious and permanent differences between the varieties of men which now exist.

The distinctions between a negro and a white man are too positive to be accidental, and of too long standing to be explained by any temporary cause. Scarcely less so are those which divide the native American from the white and other inhabitants of the Old World.

As already remarked, these differences are not sufficient to establish other species, but they are, in the aggregate, so clearly marked that they separate the species into a number of sub-species, otherwise known as Races, Varieties, or Types of Mankind.

Antiquity of Races.—These sub-species are of very ancient date. On some of the mural paintings in the valley of the Nile the negro and the pure white are clearly distinguished from the brown Copt, thus proving that at the dawn of history the racial traits were just as pronounced as they are now. But we can with safety proceed much beyond this. It was pointed out by Agassiz that the areas occupied by the principal races of men at the earliest known epoch corresponded closely to the areas of related fauna as defined by zoological geography. This points very strongly to the conclusion that a particular race developed coevally with the fauna with which it was surrounded, and hence must be approximately of the same age. Grant this, and the division of the races of men must be put back in time to somewhere about the close of the Tertiary epoch, perhaps to the Glacial period, after which tremendous catastrophe the surface of the earth slowly assumed its present physical conditions and areas of organic life.

Homo primigenius.—Previous to their dissemination over the globe the primitive representatives of man may have been of several closely-allied species, which by intermixture led to the formation of one type, as in the instances previously mentioned of the domestic dog and ox; or they may have been at first of but one species. The latter has proved the most acceptable theory to recent writers, and it has been proposed to call this precursor and ancestor of man *Homo primigenius*, "primitive man." Others, advocates of positive theories, not satisfied with this vague term, have called him *Homo alalus*, "speechless man," and *Homo anthropopithecus*, "ape-like man." With the inadequate knowledge that investigations have as yet supplied, it is not worth while, as some have attempted, to go into a detailed description of what this first representative of the race must have been in appearance.

Differences between Races.—The differences between the races are exceedingly numerous. They vary in their anatomy and physiology, in location and language, in social customs and mental powers—even in the parasites that infest them. Notwithstanding all this, these variations are so mutable, they so shade off between races, they are, when taken individually, so capricious and unstable, that it is impossible to accept any one as a means of classifying the species into its sub-species. To illustrate this, we may examine the various systems of classification which have from time to time been proposed.

Number of Races.—These have differed as much in number as in the principles on which they are based. Scarcely any two ethnologists have divided the race alike, which is to be construed as a convincing proof of the uniformity of its type. The zoologist Cuvier was content with the most limited number, grouping all examples under a threefold division into the white, yellow, and black races; but it is acknowledged that in this scheme it is difficult to find a place for the Malays and the American Indians. Dr. Samuel George Morton went to the other extreme, and insisted that there are at least twenty-two anatomically distinct races! while Mr. Charles Pickering, long the most prominent ethnologist of the United States, maintained the intermediate number of eleven races.

PROPOSED CLASSIFICATIONS OF RACES.

We shall now examine in turn the traits on which these and other writers have subdivided the human species, so as to give each its just weight.

1. *By Location: The Linnæan System, or the Geographical System.*—In this scheme the species is simply divided with reference to the geographical areas which its various tribes inhabit. It is sometimes called the *Linnæan* classification, as having been suggested by the eminent Swedish naturalist Linnæus in the last century. The continental areas give their names to the races, thus dividing the species into six—the European, the Asiatic, the African, the American, the Australian, and the Oceanic.

In spite of the numerous and elaborate systems which have been devised since Linnæus wrote, there is much to be said in favor of retaining this simple and broad division of ethnographic science, especially with a few provisos and modifications.

One excellent reason is that it commits one to no theory of characteristic and permanent traits. Furthermore, although not strictly identical with the areas of characteristic fauna, the great geographical divisions named certainly approach near to them, and each presents some features peculiarly its own.

Again, it must be understood that these divisions are to be considered to apply to the location of the tribes of mankind, not as they are now, but at the earliest period known to history or where pre-historic research can confidently locate them. Thus, the European race is now found all

over the globe, and at the dawn of history occupied large tracts in Western Asia ; but the most modern research renders it almost certain that it was in its origin exclusively European, and that the Persians, the Brahmans, even the Semitic tribes and the Copts of pure descent, wandered eastward out of Europe at some very remote epoch. The true Negro is found nowhere out of Africa, other than in those countries whither we know he was transported. The same is the case with the American Indian, and it holds nearly as good in the instances of the Asiatic Mongolian and the Malay.

We find, therefore, that the Linnæan or Geographical method of classification, when properly applied, approaches closely that which has long been the most popular—that

2. *By the Skin: Its Color, Odor, or Parasites.*—The color of the skin is the most striking feature which impresses the observer, and consequently was the first adopted as a means of classification. It is used for this purpose in early Egyptian, Hebrew, and Greek literature, and upon it is based the classification proposed by Blumenbach, Cuvier, and others. The former, who is often spoken of as the founder of scientific anthropology, in his celebrated treatise *De Generis Humani Varietate*, proposed a division into five races or varieties, based almost exclusively on the color of the skin (see *frontispiece*)—to wit:

1. The White or Caucasian race, the purest types of which he believed could be found among the tribes of the Caucasus or to have proceeded from that locality ;

2. The Yellow or Mongolian race, of which the Chinese are typical examples ;

3. The Black or Ethiopian race, embracing the true Negroes of Africa ;

4. The Red or American race ; and

5. The Brown or Malayan race, including the Polynesians.

Cuvier, as has been mentioned, followed Blumenbach in selecting color as the most salient trait in the varieties of the species, although he restricted the shades to three, omitting the red and brown races. These he treated as branches of the yellow race.

To estimate the importance of the coloration of the skin, its physiological origin should be understood. This has been but imperfectly attained. Anatomically, color is not even “skin deep.” It arises from a deposit of carbonaceous matter from the blood immediately upon the surface of the dermis or true skin. When by accident, as a scald or a blister, the epidermis or scurf-skin is removed in the Negro or Indian, most of the coloring-matter comes away with it, and the dermis has the appearance of that in a white man (*pl. 1, fig. 9*).

Causes of Color.—Physiologists have sought to explain the greater deposition of coloring-matter in one individual than in another by the difference in the relative activity of the great secretory organs, the lungs and the liver. Where the lungs are fully developed and in high functional activity, the venous blood is thoroughly arterialized in passing

through the pulmonic circulation ; that is, the carbon it contains passes off as carbonic oxide into the air. Where the pulmonary action is sluggish, the liver acts the part of a compensatory organ, the secretion of bile is increased, but the carbon is by no means so completely abstracted from the blood, and, passing into the fine capillaries lining the papillæ of the true skin, is deposited on their surface, thus forming the pigmentary coat above described.

This theory is supported by several observed facts. The arterial and venous bloods of natives of tropical climates, and of Europeans long resident in them, do not present that marked contrast of color visible in temperate latitudes, thus indicating deficient arterialization. Furthermore, it has been shown by extensive dissections that the lungs of Negroes are smaller in proportion to the height and weight of the individual than in the white race. That they are also much less efficient organs is shown by the greater liability of the black race to pulmonary diseases in temperate and cold climates.

Correlated to Exemption from Disease.—It has also been argued that the coloration of the skin and this physiological difference in the activity of the lungs and heart are "correlated," as it is termed, with a greater resistance to the effects of prolonged heat and with an immunity from the action of malarial and similar poisons. The Negroes of the West Coast of Africa live in health where it would be death to any European to spend a night. Nor do they feel the prostrating power of the heat in anything like the same degree. Sunstroke, though not absolutely unknown in the black race, is exceedingly rare. The blacks are usually proof against yellow fever, and even the half-breed mulattoes can generally expose themselves to it without danger.

If we suppose that the causes which bring about a black skin also confer these exemptions from disease, we can readily see that by the process of "the extinction of the unfit" the lighter-colored members of a tribe exposed to a tropical climate would perish more rapidly than the darker, until an entirely dark tribe came to be established. This correlation has not, however, been proved, and there are various reasons rather to believe that the immunity from these diseases is merely one of acclimation without reference to color. African travellers—Dr. Nachtigall, for instance—state that when the Negroes are exposed to the malaria of a different district from that to which they have been accustomed they frequently are attacked by it ; and, on the other hand, the Spanish Creoles of Cuba, of pure white descent, are no more liable to the yellow fever than the Negroes, and they can support the ardors of a tropical sun with equal indifference.

Distribution of Colored Races.—Only as a general rule, subject to numerous exceptions, and not as a physiological law, can it be said that color darkens as we approach the equator and becomes lighter toward the poles. The natives of the Arctic regions, the Laplanders, the Tchuktchis, the Eskimos, though belonging to different races, are

all dark, quite as brown as the majority of residents within the tropics. The inhabitant of the bleak and damp climate of Tierra del Fuego has just as deep a hue as a Botocudo, whose home is in the tropical forests of Brazil; while the Abipone, who lives about midway between them, is several shades lighter than either. Directly under the equator, on the eastern slopes of the Andes, are the Yurucare Indians, whose name means "White People," given to them by their neighbors, the much darker Quichuas, because of their remarkably fair complexions. The natives of Central Africa are by no means all equally dark. They vary in different tribes from an ebony-black to a chestnut-brown.

It is further significant, as showing that a deep coloration of the skin is probably an acquired rather than an original character of the race, that the new-born infants of all the dark races are several shades lighter in hue than the adults. Several years are required for their skin to become as dark as that of their parents.

Variations of Color in the Same Race.—The variation of color within the limits of all the races is equally marked. The most completely white communities are found among the Slavonic populations of Southern and Central Russia. Their hair is colorless, and their complexion so near a "dead white" that one anthropologist (Theodor Pösche) has selected the vast Rokitno swamps as the original home of the white race, which he thinks arose by an endemic albinism!

The Scandinavians still retain the traits of the "blue-eyed, yellow-haired, fair-skinned, large-limbed warriors" who alone of all men checked the advance of Rome in the plenitude of her power, and excited the admiration of the Latin poets. The Romans themselves, like the Greeks and Iberians, and like their descendants to-day, were much darker than the Teutonic tribes; the Semites of Northern Africa, Phœnicia, and Arabia present a still deeper hue; until among the Copts, Berbers, and Abyssinians, all ranked with the white race, the color shades by imperceptible degrees into a decided brown not distinguishable from the lightest of the pure negro hue. Yet among the Spaniards and Italians examples of pure blondes with light hair occasionally occur. In Spain this is considered a sign of Gothic, in Italy of Etruscan, descent; but it is probably a reversion to the ancient type of the race.

Albinism.—The processes of *albinism* and *melanism* occur as pathological conditions in all races, and may materially influence the general hue of a community. Among the Pueblo Indians of Arizona it is not at all uncommon to observe fair skins and blue eyes, and this in families of pure blood. It is explained by the prevalence of albinos among them, whose traits are transmitted by descent. Either partial or complete albinism is frequent in the Negro race. The skin becomes of a dead white, usually retaining small patches of the normal black color, thus presenting a mottled appearance. The tendency is said to be hereditary.

Melanism.—Instances of *melanism*, or turning dark, are frequent in the white race. The areola of the nipple in pregnancy generally

changes to a decided brown; freckles and moles are other local instances; certain skin diseases present the same phenomenon, as also a variety of cancer; while the degeneration of the suprarenal capsules—organs in no way connected, so far as known, with the functions of the skin—is associated with a bronzing of the entire surface of the body.

These facts show that color is influenced by obscure physiological changes quite irrespective of climate. There seems reason to believe that this has taken place on an extensive scale within the historic period. The Roman historians describe the Britons as a blond race with yellow hair; but their descendants, as represented in the inhabitants of Wales and Cornwall, have dark complexions and brown or black hair. The Cherokees of East Tennessee and Northern Georgia are described by the early travellers as unusually fair, some of them as much so as Southern Europeans. At present they are not noticeably fairer than other tribes. Change of food and manner of living may explain these anomalies.

Taken together, colors serve as an excellent rough-and-ready means of classifying mankind, well marked in their extremes, but in the mean blending so constantly one into another that no hard and fast lines can be laid down, and surely misleading the ethnologist who would depend on these alone as a basis for a system.

Odor of the Skin.—Closely connected with the color of the skin, and probably dependent upon it, is the odor which it exhales. This is perceptible in health in direct proportion to the amount of carbonaceous matter secreted from the blood. Brunettes emit more positive odors than blondes, the Semitic than the Aryan nations, and the full-blood Negroes most of all. Their acrid, ammoniacal effluvium is said to have been perceived many miles at sea, and in the days of the slave-trade often betrayed the living cargo to the British cruisers.

Even the most cleanly white person is instantly recognized through the sense of smell by his dog, and the lower races of men with highly-developed olfactory powers perceive the odor of the European as distinctly as we do that of the Negro. In the dialect of the Chilian half-breeds there is an adjective, *catinca*, to express this smell of a white man. Were our olfactory nerves as sensitive as those of many animals—as the deer's, for instance, which will scent the hunter a mile away—this would probably be the most positive race-distinction of all; but, as it is, we can treat of it only as an accessory to the color of the skin.

Parasites of the Skin.—Upon the physiological constitution of the skin depends another classification of the human race which was suggested by Darwin. Indeed, he advanced it as an evidence of the specific diversity of the species. This is the *difference in the species of parasites* that make their home upon or within the human body. It is a familiar fact to naturalists that the lice and fleas which infest different species of animals are themselves specifically diverse; and this holds good of some internal

parasites of the same generic character. According to the testimony of several investigators, the pediculi which harbor in the hair and skin of the negro are of different species from those on whites, and neither will continue on persons of the other race. The observations, however, on this subject are too scanty to admit of any positive generalizations. Habits and locality have probably more to do with the facts quoted than diversity of race. In communities, as the large cities of the United States, where the white and black races are thrown together under precisely similar conditions, no such difference of parasitic life has been noticed. On the contrary, school-teachers are often made aware of the facility with which the unkempt children of either race will transfer pediculi to the other.

3. *By the Hair: Shape, Color, Abundance.*—Some of the most modern classifications of the human race are based almost exclusively on the hair. It is claimed that no other portion of the economy is so permanent and so characteristic. Pruner Bey in France, Ernst Haeckel and Friedrich Müller in Germany, are distinguished names which have supported and given popularity to this view. They claim that the human race can be broadly separated into two great divisions, the one marked by woolly, the other by smooth hair, which in turn are capable of several subdivisions.

Shape of the Hair.—These peculiarities of the hair depend on its conformation. When the cross-section of a hair is examined with the microscope, it is found to be not circular, but more or less oval in shape (*pl. I, fig. 6*). The less the difference between its maximum and minimum diameters—in other words, the more nearly the cross-section approaches a true circle—the smoother, coarser, and straighter is the hair; the greater the difference between the diameters—that is, the flatter each hair is—the finer, harder, and curlier it becomes.

Straight-haired and Woolly-haired Races.—The variations in these respects are very noticeable. The nearest approach to a circular form is found among the South American Indians, where the proportion of the short to the long diameter of the hair is 95 : 100. In most of the American tribes it is about 90 : 100. Next to these stand the Mongolian nations of Eastern Asia, with an average of 85 : 100. In the European race the shorter diameter sinks to about three-fourths of the longer, or 75 : 100. It is further reduced in the Australians to about 70 : 100; among the Hottentots and Bushmen, to about one-half, or 50 : 100; and finally, in the Papuas of New Guinea, to an average of one-third, or 33 : 100, some rare cases sinking as low as one-quarter, or 25 : 100.

When the smaller diameter is less than half the longer, the hair will felt like the wool of a sheep, though in no instance does human hair equal wool in this respect.

All the tribes having woolly hair originally lived near the equator or south of it; all were in the Old World, and, except the Papuas, on the continent of Africa; in all of them the skull, as a rule, is long and narrow (dolichocephalic); in all the jaws protrude beyond the vertical

line of the face (prognathic); all have remained on the lower stages of culture, being neither city-builders nor founders of great states; all are black or dark in hue; and in them all there are peculiarities of structure which assimilate them more closely to the highest apes than is the case with other varieties of the species. Hence they are considered to have been an extremely early variation of the species, and either to have retrograded from the original type or not to have shared in an equal degree in the development which it has undergone.

Woolly hair itself has two modes of growth, which have been taken for ethnological distinctions. Either it is equally distributed over the scalp, like the fleece on the back of a sheep, or it grows in a number of separate tufts or bunches, which have been likened to the arrangement of bristles in a shoe-brush. The Papuas, the Hottentots, and some of the tribes of the Soudan present the latter characteristic, while the majority of Negroes have the former.

A similar twofold distinction is observable in the smooth-haired races. Either they have straight, stiff hair, like the Chinese and the American Indians, or their locks are wavy or curly, like those of most Europeans.

Abundance or Deficiency of Hair.—Another peculiarity of the hair which has to do with the distinction of races is its *abundance* on the person. While the hair on the head grows with great luxuriance in the Mongolian and American races, baldness being very uncommon among them, their beard is almost always very scanty, and they have very few hairs on the surface of the body compared with the European. This is true also of the Hottentot and Papuan tribes, and measurably so of most African Negroes. Among the Australians, on the other hand, a full beard is not uncommon.

Classification of the Races by the Hair.—By comparing these peculiarities Prof. Friedrich Müller has proposed the following classification of the human race on the basis of the character of their hair:

I. WOOLLY-HAIRED TYPE.

- | | |
|--------------------|----------------------|
| A. Tuft-haired : | 1. Hottentots ; |
| | 2. Papuas. |
| B. Fleece-haired : | 1. African Negroes ; |
| | 2. Caffirs. |

II. SMOOTH-HAIRED TYPE.

- | | |
|----------------------|--------------------------|
| A. Straight-haired : | 1. Australians ; |
| | 2. Hyperboreans ; |
| | 3. Americans ; |
| | 4. Malays ; |
| | 5. Mongolians. |
| B. Curly-haired : | 1. Dravidians ; |
| | 2. Nubians ; |
| | 3. Mediterranean tribes. |

This classification is supported in some instances by evidence from language. Thus, all the Caffirs speak related dialects, and so do all the

Malayan tribes. It is probable that the same is true of the Papuas and the Australians, at least so far as the ultimate grammatical structure of their dialects is concerned.

Criticisms on this Scheme.—On the other hand, there are various exceptions to the general character of the hair-growth which offer serious difficulties in accepting this classification as final. Thus, precisely among the straight-haired Mongolians, who are classed as beardless and with little hair on their bodies, we find the Ainos, who reside on Saghalin and the Kurile Islands, and who are the hairiest people on the face of the globe. Their faces are covered with hair to the eyes, and their bodies equal in this respect any of the European nations. At least one American tribe of pure blood has been observed (by the traveller D'Orbigny) to wear long and full beards. The tufted character of the hair of the Papuas and Hottentots reappears in a less degree among the Bantu and Bechuanas of South Africa, both of the Caffir stock, and the latter certainly of pure blood. It is also occasionally observed among negroes of the United States, whose ancestors must have been brought from the coast of Guinea. The very considerable diversity in the hair of members of the white race is apparent to every one. We occasionally see persons with it straight, coarse, and black as that of many an Indian; others with a friz strongly reminding one of a negro. Every museum has its "bearded woman," often with a tolerably thick coat of hair on the body; while the skin of others is nearly as smooth as that of a youthful Mongol. It must be remembered also that most of the smooth-skinned races have for generations sedulously plucked out the hairs on the face and body, which leaves it uncertain how far their present condition is the result of natural causes, or of this artificial habit finally leading to a loss of transmission of the hair-follicles.

4. *By the Skull: Science of Craniology.*—The science of *craniology*, which devotes itself to examining the skull and its component parts, has been zealously cultivated by many ethnologists in the belief that it offers the means of an accurate classification of the human race. To such a pitch of refinement has this study been carried by some of its disciples that they claim that it is necessary to make one hundred and thirty-nine measurements of each skull in order to determine its proper position in the craniological scheme! Most observers, however, have been content with two imaginary lines drawn through the skull at right angles, one giving its length, the other its breadth, from one external surface to the other.

These measurements have shown, in the first place, that the circumference of the skull is never that of a true circle unless the bones have been subjected to artificial compression; it is always more or less oval, the transverse being always shorter than the antero-posterior diameter. The extent to which this is the case is the principal basis for the proposed classification. Those skulls whose section approaches a circle belong to the so-called broad-headed, or *brachycephalic*, those which are more oblong to the long-headed, or *dolichocephalic*, races.

As these terms are necessarily vague, certain mathematical limits have been adopted. Measuring the transverse or shorter diameter in per centages of the longer, we find the utmost observed limits to be 98 : 100 for the broadest skull known, one obtained from Tartary, and 58 : 100 for the narrowest, a Celtic skull. The majority of the species have skulls in which the proportions of the diameters fall between 74 : 100 and 80 : 100. All included between these measurements are called *mesocephalic* or *orthocephalic*; while the term *brachycephalic* is confined to cases where the transverse is more than $\frac{80}{100}$ ths of the antero-posterior diameter, and *dolichocephalic* to where it is less than $\frac{74}{100}$ ths of the antero-posterior.

The eminent Swedish anatomist Retzius combined the shape of the skull, as shown by its two diameters, with the prominence of the jaws, to erect a fourfold division of the human species. If the bones of the head are examined in profile, it will be observed that in some cases the upper and lower jaws project much more than in others. Such are termed *prognathic* skulls, while those where the jaws protrude little or not at all beyond the vertical line of the profile are known as *orthognathic*. By combining these four characters, and after many years of careful research, Retzius completed his scheme of classifying the race, as follows :

I. DOLICHOCEPHALIC TYPE :

- | | | |
|------------------|---|---|
| A. Orthognathic, | { | Germans, English, Celts, Romans, Greeks,
Hindoos, Persians, Arabs, Jews. |
| B. Prognathic, | { | Africans, Australians, Chinese, Tunguses,
Eskimos, some American tribes. |

II. BRACHYCEPHALIC TYPE :

- | | | |
|------------------|---|---|
| A. Orthognathic, | { | Finns, Lapps, Hungarians, European
Turks, Slavs, Basques, Etrurians, etc. |
| B. Prognathic, | { | Samoieds, Asiatic Turks, Circassians,
Afghans, Tartars, Malays, Mongolians,
Polynesians, Papuas, some American
tribes. |

It is quite obvious from an examination of this scheme that it is in violent contradiction with that previously given on p. 46, as well as with familiar facts from other sources. The Chinese are dis severed from the other Mongolians, the Turks in Europe from those in Asia, the Afghans from the Persians, the Slavs from the Germans, etc. ; whereas we know from a mass of other evidence that no such separation is tenable. The extremes of narrowness of skull have been found in Celtic and New Zealand specimens, which have not the slightest racial connection, and the latter of whom are placed by Retzius among broad-headed races. Among American tribes there are frequent and marked differences in these and all other measurements of the skull.

Later investigators have conclusively shown that the confident statements of Dr. Samuel George Morton in his great work, *Crania Americana*, where he undertakes to define the specific American types, are

altogether erroneous. Furthermore, it has been acknowledged of recent years that in a collection of skulls from Central Germany there is scarcely one that cannot be matched by an analogue in an equally large collection from the Soudan.

The consequence is, that there has been a growing scepticism about the value of craniometry as a basis of classification. The most that can now be claimed for it is that if a reasonably large number of crania from one locality indicates a marked deflection in either direction from the mean, we may assert with reasonable probability that they did or did not belong to persons of certain nationalities. For example, in a collection of 237 skulls from Germany the transverse diameter of the narrowest bore the proportion 69 : 100, while the average of 66 skulls from Africa presented these same numbers, 69 : 100.

There is some evidence also that the shape of the skull is transmitted with little alteration. The modern Fellaheen and Copts in Egypt have precisely the same average (71.5 : 100) that was yielded by measuring a series of ancient mummies. On the other hand, the modern Greek head is 2 per cent. broader, and the modern Italian about 6 per cent. broader, than those from ancient graves. This lateral expansion is explained by the introduction of large colonies of broad-headed Teutons and Slavs about the period of the migration of nations.

Craniological Illustrations.—On Plate 2 (*figs. 1, a, b, c*) will be seen types of dolichocephalic, mesocephalic, and brachycephalic crania. Figures 10, 11 represent the actual difference between a Tartar and a New Zealand skull. Figures 5, *a, b, c*, show in profile the orthognathic, mesognathic, and prognathic facial line. The remaining figures, from actual specimens, present the traits considered peculiar to certain nations.

5. *By Language.*—The methods of classification above mentioned are all derived from the physical structure of man. There are others which are drawn from his mental powers and his psychical peculiarities. Most important of these is *language*. The value of the forms of speech in determining the relationship and descent of nations has been steadily increasing as the correct principles of its application have been more clearly defined and its positive results recognized.

The proper comparison of languages must be instituted from two directions—the one, the similarity of their words, or *lexical identity*; the other, the similarity of their formation of sentences, or *grammatical structure*.

Lexical Identity.—The lexical identity of languages has been greatly misused for ethnological purposes from ignorance and lack of scientific method. It was long supposed to be sufficient to compare a vocabulary of words in one language with those of the same meaning in another in order to decide the question of their relationship. This is a superficial and fallacious procedure. Not only does the same word change both form and signification from one generation to another, but verbal identities frequently exist where no relationship is possible. Moreover, words are

freely borrowed, and pass from one race to another with facility, sometimes retaining, sometimes altering, their original sense.

Changes in Words.—How a word may change its form so as to be quite unrecognizable is well illustrated by numerous examples in English. Thus, no foreigner hearing them for the first time would imagine that *pen* and *feather* are merely forms of the same word.

Borrowed Words.—The borrowed words may be very numerous, and must be carefully eliminated before instituting comparisons. In some languages, as in English, they may be from the most diverse sources. There is no quarter of the globe that has not contributed more or less to the English vocabulary. But it is too obvious to need emphasizing that because we have such words as *barbecue*, *canoe*, *hominy*, *hurricane*, etc. from the native idioms of America, they do *not* testify to a descent from the races of that continent, nor even to the slightest intermixture of blood. They are merely *loan-words*, obtained through commercial or social contact. Such loans occur in every tongue which has come in proximity with another, and they must be omitted in an ethnological scrutiny of the idiom.

Onomatopoeitic Words.—Another class of misleading terms are those which imitate the sounds of nature, the so-called *onomatopoeitic* words. A bird or an animal will be named by an imitation of its cry; the sighing of the wind, the roaring of the waterfall, and other natural phenomena, from the sounds they make. These sounds do not impress the senses of all hearers alike, or we should find such words the same in all tongues. This is not the case, but there is often such a similarity in the onomatopoeitics of the most remote languages that scientific linguists are unanimous in discarding them from service in ethnological comparisons.

Natural Expressions of the Emotions.—A third class of words which present deceptive similarities are those which may be called the *natural expressions of the emotions*. The inarticulate cries of pain or pleasure, fright, surprise, or admiration, which make up the interjections of language, are not the same in different races. They are often, however, based on the same vowel sounds, and articulate words formed from them are liable to be quite similar. For example, the first cry of pain of the new-born child is always a wail in the first sound of the letter *a*, as in *father*. The first articulate words it uses contain this same vowel; and as these first words are in most instances those with which it addresses its parents, *papa*, *mamma*, these two terms of consanguinity are very similar in the most radically diverse languages, and have no value in deciding the relationship of nations.

How many words of the two classes above mentioned there may be is still a debated point, some linguists claiming that most of the radicals of all languages having been derived either from imitation or the psychological vocal expression of sensation, they must have a general sameness.

Coincidences.—To these must be added purely accidental resemblances. They are more numerous than a simple arithmetical computation (as some

have attempted) would lead us to suppose. Although the total phonetic elements of articulate speech have been placed by some at about four hundred, they rarely exceed the tenth of this in any tongue, and in some sink as low as eleven. Many of their combinations are theoretical only, being unsuited to the vocal organs or repellant to the genius of the language. It is safe to say that every language uses very much less than 1 per cent. of the mathematically possible combinations of its phonetic elements; even that it uses less than 1 per cent. of their vocally possible combinations.

These limitations greatly increase the probability of fortuitous identities in sound and signification, especially where, as in many tongues, a word is usually a single syllable. With every added syllable the chances of the identity continuing are of course vastly decreased, so that while an identity of meaning in a monosyllable in two languages has little weight, it is practically impossible that a word of four syllables should by accident mean the same in both. Thus, the Maya of Yucatan, nearly a monosyllabic tongue, has various identities with the English, as *hol*, hole, *pol*, poll (head), even *bateel*, battle, but they are absolutely accidental and never extend beyond a dissyllable. In many monosyllabic languages a syllable may have several significations, and this increases the probability of such coincidences. *Ta* in Chinese has twenty-six different meanings, and hence the chances are twenty-six times greater that it will coincide with the meaning of *ta* in any other language than if it had but one.

But all arguments on such lexical identities rest on the erroneous assumption that language is something fixed and its elements permanent. So far from true is this that when we find a word the same, and with the same meaning, in two tongues not closely related, we may be quite sure that they do *not* come from a common source and have *no* genealogical connection—nothing but an accidental one. The language faculty of man is forever altering, remodelling, working over its possessions. Whatever it receives from another tongue or from an antecedent generation it invariably stamps with some new device: it adds or omits, it changes quantity or accent, it modifies and substitutes. This is not effected capriciously or intentionally, but unconsciously and in accordance with fixed laws of utterance. It is the province of the scientific linguist to ascertain and expound these laws, and it is only in obedience to them that we can with any safety proceed to compare the vocabularies of different nations.

Nothing but a deep knowledge of these laws, gained by the prolonged study of many dialects, could have enabled linguists to accomplish one of the most brilliant successes they have achieved, the classification of all the dialects and languages of the Aryan race, and the partial reconstruction of the original speech from which they sprung at an epoch far beyond the remotest horizon of history.

Grammatical Structure.—The grammatical structure of languages is

considered to be greatly more permanent than the forms of words. Indeed, by some of the most profound students of the subject it has been held to be, in its governing principles, unalterable. An analysis of these principles has led to the classification of all the languages of the globe into four divisions. They correspond to a certain extent with the chief continental areas and with the division of the species by the peculiarity of color. They are as follows :

I. ISOLATING LANGUAGES.

Characteristics.—Words are simply arranged in the sentence in juxtaposition, without change of form or grammatical connection.

Spoken by Chinese, Siamese, Burmese.

II. INFLECTING LANGUAGES.

Characteristics.—Each word indicates by its own form its character and relation to the proposition of the idea which it represents.

Spoken by the Aryan nations, the purest types being the Sanskrit, Greek, Latin, and Gothic.

III. AGGLUTINATIVE LANGUAGES.

Characteristics.—The sentence is formed by suffixing to the word various terminations modifying and limiting it.

Spoken by the Finns, Turks, and many northern Asiatic tribes.

IV. INCORPORATIVE LANGUAGES.

Characteristics.—The leading word is either divided and the modifying terms inserted, or they are united to it as prefixes and suffixes, so that the whole sentence assumes the form and sound of one word.

Spoken by most of the American tribes. Incorporation is regarded as a characteristic of American languages. The Basque has a somewhat similar character.

Polyglottic and Monoglottic Races.—It will be seen that while these great divisions are, in a general way, peculiar to certain races, they are not absolutely so. Still less is this the case with single stocks of languages. Both the Semitic and Aryan peoples belong to the pure white race, but their languages are totally diverse, and it is next to impossible to believe that they could ever have flowed from the same source. Such races are called *polyglottic*, while those who speak dialects of the same tongue are *monoglottic*. The best specimen of the latter is the Malay race. All its members, from Madagascar to Easter Island, make use of dialects unquestionably scions of the same stock. This is also the case with all the Caffir tribes of South Africa, and some even of the natives of Australia.

Changes in Language.—These facts show the great permanence of linguistic forms when not disturbed by violence. In geographical area the Malayan race was the most widely dispersed of any. By it the Poly-

nesian islands were inhabited between two thousand and three thousand years ago. They were found by them uninhabited; therefore since then the language has undergone no other alterations than those caused by time alone. These have proved to be very slight, and dialects which certainly have been dissevered two thousand years remain almost mutually intelligible.

The principal causes of change in language are war and migration. But it has been well said that a nation which loses its language is also quite sure to lose its independent nationality, whether conqueror or conquered. The Normans entered France as a victorious people, and seized and held the land, but in one or two generations they had lost both their native tongue and national unity. On the other hand, the Jews and the Gypsies, though for centuries wandering over the globe, retained their unity by maintaining through all changes their separate tongues, the Hebrew and the Romany. In proportion as they lose the knowledge of these they dissolve and become merged in the nations among whom their lot is cast.

Causes.—The forced migration of great numbers of the African race to America as slaves led to the phenomenon of large bodies of the blacks speaking English, French, Portuguese, or Spanish. But in pre-historic times no such extensive transportation would have been possible, and it is safe to say that the simpler the conditions of social life the more accurately does similarity in language testify to the kinship of blood.

Rise of Dissimilar Languages.—The problem of accounting for absolutely dissimilar linguistic stocks occurring in the same race, as the Aryan, Semitic, and Basque in the white race, is perplexing. It is inconceivable that one of these could ever have been derived from either of the others. Nor can we understand how the three could ever have been developed from any one primitive form of speech.

The modern theory to explain these and similar instances is that the race had definitely obtained and fixed its racial characteristics before it had a language at all—before it had emerged from that inarticulate condition which, as has heretofore been observed (p. 38), seems to be indicated by some of the oldest osseous remains. When these had become fixed and the race had separated into several branches, living remote from each other, then, and not till then, did these branches severally develop their modes of speech and on entirely dissimilar principles of construction.

If this view is accepted, an interesting sequence is that the number of distinct linguistic stocks spoken within the limits of a race is probably in proportion to the antiquity of that race, as it is evident that its bands were numerous at that remote epoch when human speech had not appeared. Hence an extremely polyglottic race, like the American, would be much more ancient than a monoglottic race, like the Malayan. In these two instances the reasoning is borne out by geologic and historic evidence, and is sufficient to disprove conclusively the theory sometimes advanced that America was peopled by landfalls on its western coast from the Polynesian islands.

6. *By Social Organizations.*—Even a superficial observation of the species shows that its members differ materially in their capacity for social organizations, both of a civil and religious character. Some have thought that these might serve as a basis for distinguishing kinship of blood and forming a classification of nations.

Systems of Consanguinity and Affinity.—One of the most ambitious attempts in this direction was that of an American scholar, Mr. Lewis H. Morgan. He made a voluminous compilation of the systems of consanguinity and affinity of all tribes and nations, ancient and modern, as far as he was able to obtain them, and where they proved identical in character his theory was that the tribes were descended from a common stock.

As usual, exclusive attention to one such trait involved him in conflict both with every previous system and with all historic probability; which, however, did not shake his faith in his hypothesis. Thus he found that the system of consanguinity of the sub-tribe of Seneca-Iroquois in Western New York was identical in many characteristics, which he deemed radical, with that of the Tamil people of Southern India; and, in spite of the enormous distance separating them and their diversity in so many other respects, he declared that the most satisfactory theory to explain this was to suppose that they were descended from common ancestors, who had been accustomed to this mode of stating the family relations. Few have been found willing to follow him thus far.

Systems of Religion.—Religions have been regarded by some as race peculiarities. Monotheism has been said to belong to the white race, fetichism to the black, and polytheism to the yellow. While this also has a certain degree of truth in it, inasmuch as certainly these religions are most prevalent among the races assigned to them in the scheme, yet many circumstances go to show that the religion of a race is mainly a matter of culture and instruction. Mohammedanism, the most monotheistic of religions, has millions of converts among the blacks of the Soudan; many of the white race in South America have sunk to a fetichism as low as that of the natives, although it may still be called by the name of Christianity; and faithful converts to the religion of the Bible are counted in large numbers in every race.

Occupations.—The distinction between pastoral and hunting tribes has by some been elevated to one of racial division. It is certainly a curious fact, and one most deeply influencing the destiny of races, that some have enjoyed from earliest historic times the power of subjecting lower animals to their use, and that others have never possessed or exercised this talent. Although the African elephant is as docile as that of Asia, and was tamed with great success by the Carthaginians and Numidians of the white race, it has never been brought under subjection by the blacks. It would be difficult to estimate the enormous advantage to intellectual development which those two animals, the horse and the cow, have been to that portion of the human race which domesticated them. Without his trained

dogs it is doubtful if the Eskimo could have established himself in the regions of the frozen North.

In contrast to this it is noticeable that the pure American race in no part of the continent domesticated any animal for draught or burden, none for its milk, and even the dogs which were often found in their possession were rather for food than to aid in the chase. The feeble llama of Peru was the only animal of any importance which was known as a domestic beast, and it was limited to a very narrow geographical area. The pastoral life, with its flocks and herds, its notions of personal property, and its humanizing care for the lower animals, was unknown throughout the American continent, as it was throughout Australia and in many portions of Africa held by the black race exclusively.

Results of the above Comparisons.—From this review of the various plans proposed to classify the human species into its several races, it will be apparent that no one of them is entirely satisfactory. Taken alone, each conflicts with well-marked traits laid down by the others. This is as we might expect from the unity of the species. All that we can aim to do is to group under some general and loose-fitting subdivisions those members of the species which display the greater number of similarities.

For this purpose it is doubtful if we can have recourse to any better system than that long since suggested by Linnæus, and arrange the different tribes and peoples under the great continental areas which they mainly inhabited at the period when they were first known to history, or where sound reasoning from other sources, as from language (see p. 52), would place them.

In this manner we may with propriety speak of the American race, which includes all the inhabitants of the New World at the period of its discovery, with the possible exception of the Eskimos; the Oceanic race, which embraces the native tribes of Polynesia, Melanesia, Micronesia, and Madagascar, including representatives of three stocks, the Malayan, the Papuan, and the Australian, and numerous crosses of all these; the Asiatic or Mongolian, whose home is or was definitely located in Central and Western Asia; the African or Negro race, pure types of which were found scarcely anywhere outside of that continent; and, finally, the European, which at a period pre-historic indeed, but easily traceable by archæology and language, was confined to Europe, the extreme north of Africa, and the extreme west of Asia.

PRESENT RELATIONS OF RACES.

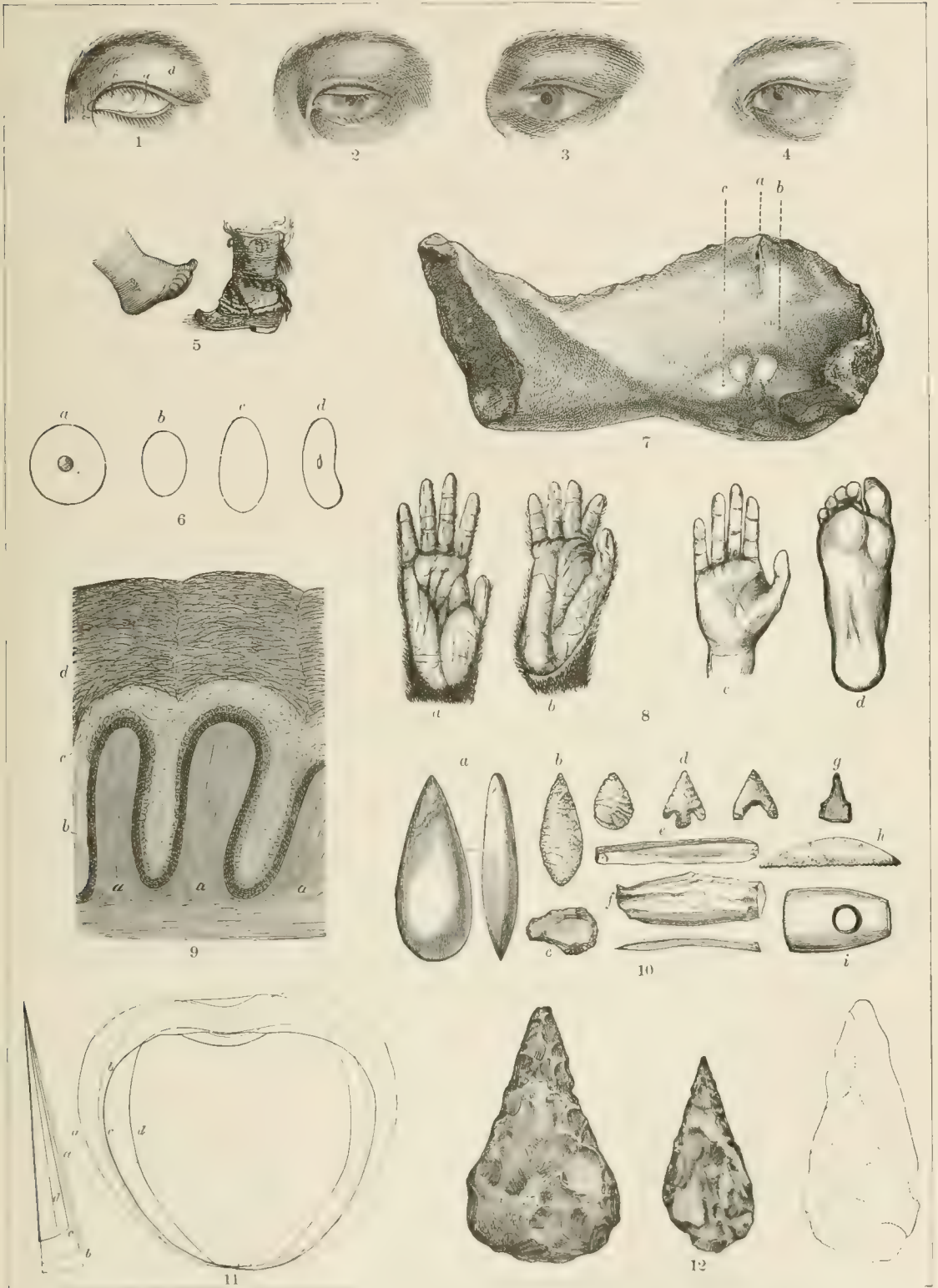
Obliteration of Race Distinctions.—Within the historic period the rise of great monarchies, which enabled rulers to prosecute extensive foreign conquests, the increase of commercial intercourse, and the enlarged facilities of intercommunication have tended to the obliteration of racial distinctions, partly by extensive migrations, partly by originating mixed races. When these commixtures are of a higher with a lower race, it is almost exclusively of males of the higher with females of the lower, and

the result is that socially the children of mixed blood sink to the level of their mother's race. This is witnessed in the mulattoes and in the mingling of Mongolians and Negroes. These are also physically inferior, with less energy of spirit and vigor of body to make their way in the world and to resist disease than the pure blood of either stock. A striking example of this is the rapid decay of the Polynesian islanders, the present generation undergoing a steady diminution, although largely influenced by intermarriages with both the white and yellow races; the children indicate a high rate of mortality, and if they survive to adult years are inferior to the pure Polynesian stock in physical power.

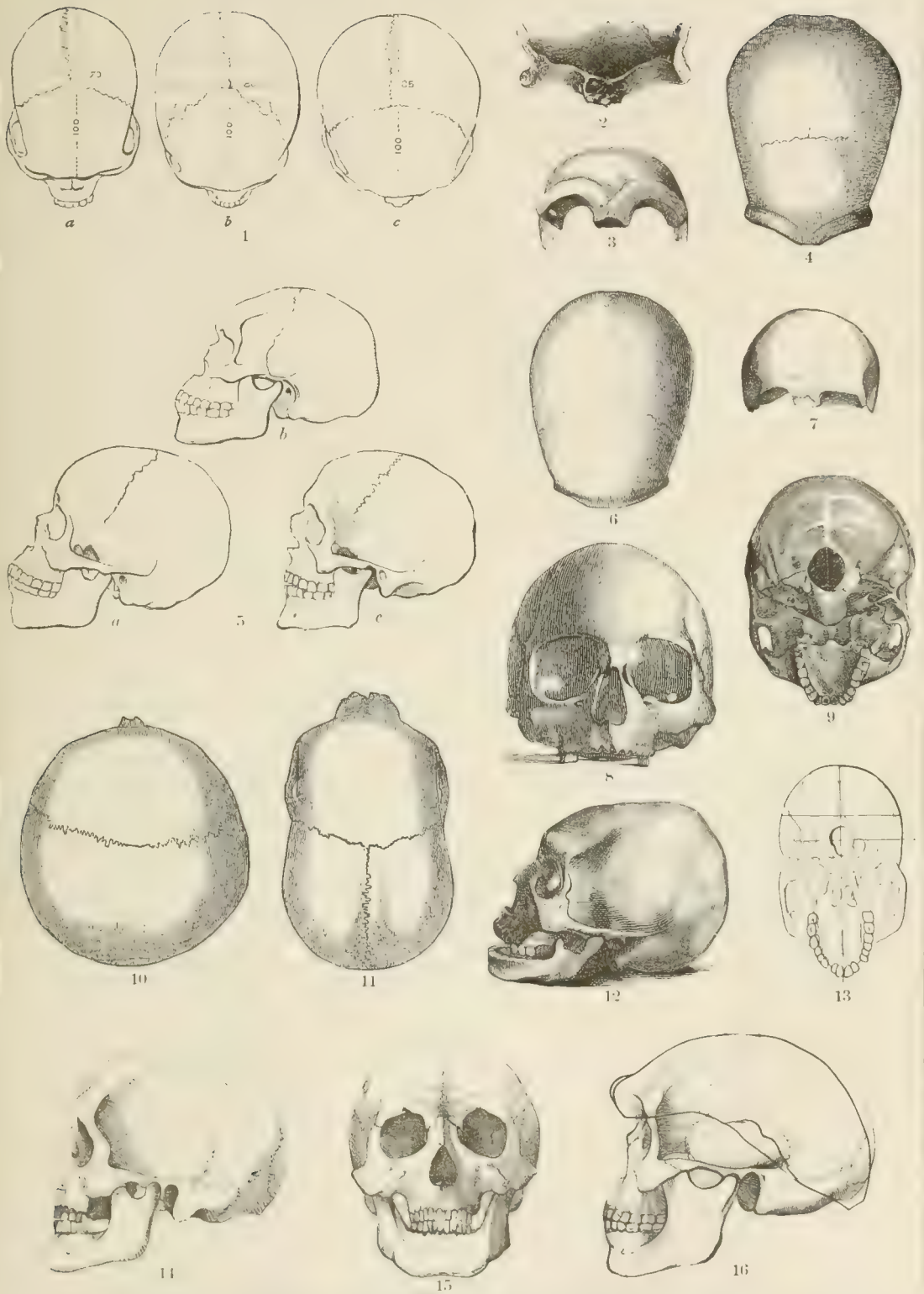
The contrary is the case where two races on the same plane intermarry, possibly one reason being that the women of both races partake in the commixture. Examples of this are the Melanesians, the product of long-continued intermingling of the straight-haired Polynesian with the woolly-haired Papuan. This has developed a powerful and energetic stock, bold warriors and navigators, superior to either of the pure races from which they sprang. The same improvement has been observed in the children of marriages between the negro and the Indian in America. They are usually large-limbed, muscular, with an extraordinary growth of hair, and become the leaders in the rude communities where they dwell.

Still more strongly are the advantages of such blendings observable when they take place within the limits of the race itself. Thus, of all the Finnish folk the noble and chivalric Magyars take the lead—a people of very mixed descent, a cross between Finns, Slavs, and Germans; the most progressive of the German stock are those whose ancestors sprang from crossings either with the Slavs or with the Romance nations of Southern Europe; most vigorous and energetic of all are the English, and it is more than a coincidence that they are also the product of the most numerous crossings of Celtic, Romance, and Teutonic breeds.

Destiny of Races.—It is probable that the pure stock of all the more deeply colored races, the Negroes, the Australians, the Papuas, and the American Indians, is destined gradually to fade out within a few centuries. In the United States the mulattoes already decidedly outnumber the negroes of pure blood; on some of the Indian reservations scarcely a single pure-blooded child can be found; on many of the Pacific islands a real Polynesian is rarely to be seen; and this process is constantly extending through the greater inducements offered by the males of the lighter races and the marked sexual preference extended them by the females of darker hue. The highest race will, however, always preserve the purity of its blood—not owing to laws or outside pressure, but to the abhorrence of its females to mingling with the lower stock, and to the independence which modern life ensures them to follow their instincts in this respect.



1. Eye of a Japanese; 2. Eye of a Corean; 3. Eye of a Chinese; 4. Eye of a Dyak (Borneo). 5. Foot of a Chinese woman. 6. Sections of hair highly magnified (after Pruner): *a*. Japanese; *b*. German; *c*. African negro; *d*. Papuan. 7. Jaw of La Naulette, from the lingual side: *a*. Lingual depression; *b*. Lingual prominence; *c*. Sublingual depression, with the cavity of insertion of the genio-glossal muscle. 8. *a*. Hand, *b*. Foot, of Chimpanzee (after Vogt); *c*. Hand, *d*. Foot, of man. 9. Section of negro skin, much magnified (after Kölliker): *a*. Dermis, or true skin; *b*, *c*. Rete mucosum; *d*. Epidermis, or scarf skin. 10. Neolithic (later Stone Age) implements: *a*. Stone celt, or hatchet; *b*. Flint spear-head; *c*. Scraper; *d*. Arrow-heads; *e*. Flint flake-knives; *f*. Core from which flint flakes were taken off; *g*. Flint awl; *h*. Flint saw; *i*. Stone hammer-head. 11. Various forms of human pelvises: *a*. Of a young German woman; *b*. Of a Javanese woman; *c*. Of a negress; *d*. Of a Bushwoman. 12. Palæolithic (earlier Stone Age) flint picks, or hatchets.



CRANIA.—I. Top view of: *a*. Negro skull (index 70, dolichocephalic); *b*. European skull (index 80, mesocephalic); *c*. Samoied skull (index 85, brachycephalic). 2-4. Skull from the Neanderthal (near Düsseldorf, Prussia). 5. Side view of: *a*. Australian skull (prognathic); *b*. African skull (prognathic); *c*. European skull (orthognathic). 6, 7. Skull from Engis (Valley of the Meuse, Belgium). 8. Skull from Kotzebue Sound (Alaska). 9. Base of skull of an old Roman. 10. Tartar skull. 11. New Zealand skull. 12. Aleutian skull. 13. Catia skull. 14, 15. Calmuck skull. 16. West Australian skull, with the outlines of the Neanderthal skull.

PART II.

ETHNOLOGY.

ETHNOLOGY proper is distinguished from ETHNOGRAPHY. The latter describes the customs, laws, and habits of nations; the former seeks for the conditions which give rise to these habits, the influence they exert on the destiny of commonwealths, and the principles of life which they illustrate. Both of them have to do not with races, but with peoples—with what the Greeks termed *ethnē* (ἔθνη), communities bound together by some common tie and separated from other communities by traits peculiar to themselves.

Determinative Elements.—It is the aim of Ethnography (ἔθνος, “a people,” γράφειν, “to describe”) to depict, of Ethnology to explain, the physical conditions, the stage of culture, and the social life of the various tribes of men, with the final aim of interpreting, by a comparison of such facts, the universal laws of progress of the human species. Ethnology acknowledges the inseparable relations of mind and body, and that man’s grandest discoveries and noblest impulses are the late fruits of a long series of humble strivings. Therefore, its comparisons begin with the most rudimentary arts and with the most prosaic and coarsest needs of life. On the manner in which these were satisfied depended in a great measure the position of the community in the scale of development. They are, to use a technical form of expression, the “determinative elements” in the growth and history of nations. The most important of these elements may be classified as follows:

- I. THE FOOD-SUPPLY;
- II. THE SEXUAL RELATION;
- III. LANGUAGE;
- IV. TECHNOLOGY, OR THE ARTS;
- V. GOVERNMENT AND LAWS;
- VI. RELIGION;

These, together, make up the sum of human life and human history. We shall take them up one by one, and point out how they exercise their influence on men and nations, and how they have moulded communities into what they have been and are.

Some philosophers who have analyzed human motives have traced

them all to two sources, so comprehensive that they embrace the ultimate springs of all conscious action whatsoever. The first of these is the instinct of *self-preservation*; the second is the instinct of *reproduction*; or, to express them in the more direct words of a celebrated writer, "the sense of hunger and the passion of love" (Turgueneff). These, therefore, as the primary conditions of all life, whether individual or national, present themselves as the first two elements for examination in ethnic conditions. The first concerns the *food-supply*, the second the *sexual relation*.

I. THE FOOD-SUPPLY.

Influence of Quality of Food.—It has been mentioned on a previous page (20) that the structure of the human teeth does not authorize the statement that either animal or vegetable food was ever man's exclusive or "natural" diet. In his different communities he is found subsisting now on one, now on the other, generally on a mingling of both, as opportunity offers. Climate and facility of acquisition usually determine his fare. The majority of men eat that which is obtained with least cost, whether it be of labor or money. This is a necessity with many, and the preference of others. The influence of climate in this respect has been exaggerated. The raw flesh and fat in which the Eskimo delights, and the boiled rice and ghee or melted butter which is the favorite dish of the Hindoo, have not been selected by these peoples on account of their greater adaptability to their respective climates, but because they could get nothing else so easily. So it will be found with most national dishes.

The physiological theory that the foods richer in hydrocarbons are unconsciously selected by the residents of cold climates, and those deficient in them by the natives of the tropics, is an error in fact. Most tribes near the equator are lovers of meat, and eat it whenever they can procure it, even consuming it when in a nauseating condition; and recent Arctic explorers have reported that the Eskimos are quite as greedy of canned vegetables as they have been traditionally of tallow candles. Nor is the health of a person in the tropics injured by a moderate use of animal food. On the contrary, the experience of the English in India, and more recently of the French in Panama, has demonstrated that such a mixed diet in hot countries is a safeguard against the diseases of the abdominal organs which are so prevalent in those climates.

The doctrine, long a favorite with physiologists, that man requires a variety of food for his physical well-being, is another which has not stood the test of ethnological research. The roving Indian of the Plains, who lives exclusively on unsalted meat; the Polynesian, who was accustomed for eight months in the year to make his meals from bread-fruit; the Central American natives, whose bill of fare scarcely ever went beyond the preparations of maize; and the Scotch peasant, who in former times tasted nothing except oatmeal six days out of seven,—were all examples

of conspicuous bodily vigor nourished by almost a single article of diet, quite different in each case; and many more such examples could be added to this list. Such monotony would, however, be keenly felt if adopted by one who had long been used to a diversified fare. He would no doubt suffer in health and strength, but not more so than when those who have been wont to subsist on one article change their food. Alexander von Humboldt observed that the South American tribes, who had been accustomed to a very limited range of articles of food, suffered severely in health when they removed to other districts where these substances could not be obtained. The greater readiness with which residents of the temperate zones adapt themselves to the extremes of climate, and thus are qualified to become the masters of the world, is partly owing to the changes of the seasons to which they are exposed, forcing them to vary their diet at different periods of the year, and thus to strengthen their digestive powers.

There can be no doubt that indirectly, in this and other ways, the quality of the food exerts a perceptible influence on the physical capacities, and therefore to a corresponding extent on the mental faculties. But its influence in both these respects has been greatly overestimated by many recent writers. The distinction between "brain food" and "body food" has little or no foundation in fact; and the notion advocated by the historian Buckle and his disciples that the chemical constituents of the principal food-supplies of a nation explain in a great measure its condition of culture and the incidents of its history, is entirely beyond the guarantees of sober science.

Influence of Quantity of Food.—The same, however, cannot be said of the quantity of food. It must be maintained without reservation that an abundant supply, a quantity even more than barely sufficient, a slight excess, is essential to the fullest development of the human powers, be they physical or mental. The belief that muscular strength and endurance, or intellectual clearness and grasp, are improved by persistently denying the appetite and affording the body a continuous under-supply of nourishment, is a serious error, however much it has been endorsed by philosophers, theologians, and athletic trainers. Ethnology can trace the physical and mental decay of whole nations to a long course of insufficient food. The Bushmen of South Africa have already been quoted as an example of the most stunted and inferior representatives of the human race; but let it be added that this is true only of those who have for generations lived in a condition of semi-starvation in the unproductive wilds of the Kalahari Desert; while others of the same stock, whom Livingstone met in the fertile districts south of the Ngami Lake, were quite up to the average stature, finely proportioned, and nowise deficient in intelligence. The Australians in the well-stocked hunting-grounds in the east of that continent are a type very superior to the wretched specimens who eke out a half-famished existence in the inhospitable bush of the west coast. The miserable Fuegians, who are described by Darwin

as on the lowest plane of the species, deriving a precarious subsistence by picking up the shellfish and seaweeds of their rocky shores, are a branch of the same parent tree which in the rich forest-lands of Chili produced the bold Araucanians, who for centuries have held their own against the encroachments of the white man, and won his respect by their martial prowess and mental aptitude.

Similar examples are common throughout history and all over the world. They teach that it is not the quality of food—provided that it contains the elements of nutrition—nor yet the monotony or diversity of diet, but almost exclusively its quantity, that exerts an influence on the abilities and historic importance of a nation when studied simply as a question in physiology.

Sources of the Food-Supply.—But the food-supply has other very important bearings besides the merely physiological one. Nothing has more visibly influenced the progress of culture than the various methods resorted to for procuring, preserving, and preparing food; and to these points, therefore, we must devote careful consideration in reflecting on the principles of Ethnology.

All communities obtain their food either (1) from natural products, (2) from cultivated products, or (3) by exchange and commerce, or by a combination of these methods. In proportion as one or the other prevails or becomes the sole method, all the other characteristics of the community become altered to correspond to this primal condition of existence. We will examine each of them separately.

I. FROM NATURAL PRODUCTS.

The earlier and the ruder tribes have always contented themselves with such food as the vegetable and animal world supplied them ready to their hands. The fruits of the forest and the denizens of the streams and woods sufficed for their wants. Wherever this condition prevails it is impossible for communities to be large in size or to have permanent abodes, for the favored spots where Nature is lavish enough with her gifts to support a large population at all periods of the year are too few, if indeed they anywhere exist, to be other than rare exceptions. Hence, no mere hunting tribe or race of fishermen has ever founded durable states or effected permanent and extended settlements. They are too unstable to allow of the concentration of power, and they are found split up into a number of small septs in a condition of constant war with each other, the usual grievance being the encroachment on each other's rights to the possession of food-localities.

Although the guiding principle of all the extensive and lasting migrations of the human race is the food-supply, this is especially obvious where this supply is limited to the spontaneous products of nature. The earliest inhabitants of a district invariably confined themselves to that portion of it where their wants could be most easily supplied. When the population had so increased that these wants were in excess of the

supply, a portion of the inhabitants moved elsewhere, seeking those spots where food could be obtained with the minimum of exertion. Only when the localities abounding in fruits, game, or fish were forcibly closed to them by stronger hands did they content themselves with the insufficient nourishment afforded by the desert and the tundra. Thus, the investigations of Nordenskjöld have shown the Tchuktchis of the northern shores of Siberia to be a conglomerate of ethnic fragments driven into those inhospitable regions by the pressure of mightier nations, who dispossessed them of the more genial hunting-grounds to the south which they formerly controlled. Such is the history of all tribes dwelling in deserts and infertile tracts.

The long-received opinion that the race scattered from some centre over the earth's surface impelled by a desire of novelty or conquest, and in accordance with definite plans, is now out of date. The savage man has no ambition and no curiosity, and lays no plans beyond satisfying the immediate needs of his body.

Hunting Weapons.—It has been estimated that in the temperate zone it requires on the average sixteen square miles to support one individual by natural products alone. Although any such calculation can only be a loose approximation, this will indicate that even in comparatively favored regions the struggle for subsistence is to the savage a severe one. Hence he was stimulated by the most urgent of needs to develop those arts which would facilitate him in obtaining his food—those relating to hunting and fishing. We may suppose that at first a club and a stone were his only hunting weapons, but he soon acquired more effective means of securing his prey. He learned to sharpen a stone and affix it to the end of a stick, thus forming a spear or javelin to throw, or with which to thrust. Nor was it long before he discovered that he could greatly increase the force of his dart by using a hurling-stick, as was seen among the natives of Central America and elsewhere, or by projecting it from a piece of wood bent by the sinew of an animal—the first bow and arrow. This important invention was made extremely early in the life of the race, in times long anterior to the beginning of history, and was so widely known that but few tribes have been discovered entirely ignorant of it. Until the discovery of gunpowder and firearms in modern times nothing was devised to surpass it as an effective aid either in assaults on wild beasts or in the conflicts of men.

By some tribes the primitive club was ingeniously bent into the boomerang, a weapon capable of describing such a curve that it will return to the hands of a skilful thrower after it has hit its object. Instead of throwing a stone from the hand, it was observed that much greater force could be obtained by projecting it from a strip of skin, and thus the sling came into use—a device independently originated in many nations in the Old and New Worlds. In different portions of the tropics, where the growth of long, straight hollow reeds offered the necessary material, as among the Malays of Melanesia, the tribes of the Upper Amazon, and

those of Central America, the blow-tube or popgun was developed into a formidable weapon which could hurl its poisoned darts with deadly effect to man or beast.

Traps and Calls.—These and other similar inventions were originally devised as aids in hunting. But that pursuit educated man in many other directions. He pitted his ingenuity in a variety of ways against the wary senses and suspicious nature of the beasts of the forest. He sought to overcome them not merely by force, but by stratagem. He devised traps and snares of many kinds, ever seeking some novel deception as the game he was after had become too subtle for his older wiles. One of the earliest of these must have been the pitfall. We can imagine no other device by which the ancient Cave-dwellers of Belgium could have overcome those powerful Carnivora, the cave bear and the sabre-toothed tiger, more formidable than any now on earth. That they did so, and frequently, the numerous bones of these animals in the caverns, cracked for their marrow, leave no room for doubt. Ingenious instruments for imitating the calls of animals and birds, and thus attracting them within the range of the hunter's weapons, are in use among all rude tribes.

Many travellers have recorded the surprising *education of the senses* which the hunting life brings about. The native eye can often detect the species, age, and size of an animal from a few tracks and signs hardly perceptible and absolutely meaningless to the civilized senses. The pursuit of wild food was also the cause of training certain animals to assist in the chase—notably the dog, the hunting-hawk, and fishing-heron, and perhaps the cat.

Wherever fish abounded it formed an important article of the food of primitive nations. Indeed, some ethnologists, as Mr. Lewis H. Morgan, have maintained that this was the main, and often the exclusive, diet of pre-historic nations. Along some watercourses fish are so plentiful that it requires no address to catch them, but usually some mechanical device is essential. Hence in all countries and from the earliest times nets, weirs, and dams have been familiar to the fisherfolk. Spears and gigs belong also to the arts of the simplest tribes. Even the Australians and various American tribes were familiar with the fish-hook, manufacturing it out of the claw of a bird or the crooked bone of a fish. The primeval Lake-dwellers of Switzerland and the anglers of ancient Egypt used a barbed bronze hook not unlike that which is still in vogue among ourselves.

Both in hunting and fishing it was common for a large number of persons to unite their efforts in carrying out a general battue or in driving fish up a stream or into a dam. In this manner men were taught the advantages of association for a common end and the wisdom of carrying out matured plans. Travellers also state that such nations are usually quite jealous about their rights over their fishing- and hunting-grounds, thus showing that their mode of subsistence had developed their ideas of property rights and of geographical relations.

From this survey it is quite apparent that although the dependence on natural products for food had certain grave disadvantages, it was by no means deficient in stimuli urging man to the acquisition of new powers.

Anthropophagy.—An exception to this should probably be entered with regard to *anthropophagy*. There is no doubt that cannibalism prevailed extensively down to a quite recent epoch. The loathing which it inspires is not ancient nor was it widespread. The ancestors of the nations of Europe were cannibals at no very remote epoch, as the remains in the barrows of Germany testify, as do also the early traditions of the Greeks and Romans. Throughout America it was met with constantly in one form or another, reaching its acme among the Caribs, who smoked and dried the arms and legs of their enemies for provisions on their voyages. It is still carried on to a hideous extent in some parts of Africa, even the bodies of those dying of sickness being consumed; while the Malay race, as the Feejeeans and New Zealanders, were long notorious as the most familiar examples of man-eaters.

This custom, so repugnant to the feelings of modern life, is not necessarily associated with a condition of extreme debasement. The Aztecs fattened and ate prisoners in great numbers, and went to war for the sole purpose of capturing this kind of game, but they ranked in culture among the highest of the native Americans. The Maoris of New Zealand were among the finest specimens of the Polynesian race. The Dyaks of Borneo are described as a noble-hearted, hospitable, and intelligent people; they are quite literary, all of them knowing how to read and write, and treasuring their books among their most prized articles; yet they are cannibals of the most pronounced type, not only eating their captives taken in war and the criminals who are condemned to death by their laws, but even killing and eating their own relatives when they fall sick or grow old. It is a matter of history that about the eleventh century the taste for human flesh had gradually increased to such an extent in Egypt that it was sold openly in the cities, and the traffic could only be broken up by the most stringent measures. This seems to bear out the popular belief that a taste for this food, once acquired, becomes an overmastering appetite.

National culture takes a long stride in advance when the food-supply is drawn no longer from the sparse and uncertain resources of the forests, but is secured,

2. FROM CULTIVATED PRODUCTS.

These may be derived from either the animal or vegetable world. The latter gives rise to agriculture, the former to the breeding of domestic animals.

Agriculture.—An ethnologist of ability, Mr. Charles Pickering, has maintained that the history of the progress of mankind can be distinctly traced by the extension of the areas of cultivated plants; and the learned work which he published to support this opinion presents an astonishing

mass of testimony to the influence which a knowledge of such plants has exerted.

Age and Distribution of Food-Plants.—The beginnings of agriculture are lost in antiquity. Of many of the plants cultivated for food we know neither the original habitat nor the wild form. Rice, for example, was, according to the annals of the Chinese, extensively cultivated by them two thousand eight hundred years before the Christian era; barley was familiar to the Egyptians before the earliest recorded dynasties; rye was sowed and reaped during the remotest epochs of the Age of Bronze in Europe. These grains must have been cultivated food-plants long before the earliest of these dates, as they had already been trained to a character quite different from that natural to them, and had been carried long distances from their native homes. So in America the *Zea Mays* was found by the first explorers from lat. 45° N. to lat. 45° S., yet the only plant from which it could have been derived by cultivation is a native of Guatemala.

Certain food-plants have so long been propagated in an artificial manner that they have lost all power of independent reproduction, their seeds having disappeared or changed into fleshy fibres. This is the case with most varieties of bananas and with the *Jatropha Manihot*, which furnishes the cassava bread. They must be propagated by cuttings, having no longer the power of developing seeds. This is almost the case with the date-palm of the Sahara Desert; it has still the capacity to produce seeds, but has lost that of sexual union, and to assure a crop the male and female flowers have to be brought together by human agency.

Such facts as these testify to the great antiquity of the agricultural arts. They are also more widely distributed than many have supposed. It is rare to learn of any tribe wholly without some cultivated plant. Most of the so-called hunting tribes of America were agricultural to a limited degree, maize, beans, and pumpkins being known widely over the continent.

Agricultural Arts.—The pursuit of agriculture even in the most simple manner involves a variety of minor arts. Implements must be invented for clearing the field, for turning up the soil, for weeding, for cutting the stalk, curing the grain, and for grinding or otherwise preparing it for use. Something equivalent to the hoe occurs far back in the Stone Age. Broad and well-chipped hoe-blades, intended to be fastened to wooden handles, were in use in the Mississippi Valley many ages ago. The brush was frequently burned from the ground and the soil scratched by means of a wooden stick. A crooked branch of a tree was no doubt the primitive form of a plough. Dragged at first by a man or two, the farmer soon learned to utilize for this purpose the greater strength of the horse or the ox where these animals were known. Wherever the cereals were cultivated the sickle, the flail, and the corn-mill were soon invented for the preparation of the grain. Corn-crushers of stone are among the most numerous relics of the Neolithic Age, and

large stone mortars, in which the grain was reduced to coarse meal, are seen in most cabinets. The application of water-power to machinery was probably first devised to lighten the labor of grinding corn, and was gradually improved and extended to other purposes.

Domesticated Animals.—Many tribes draw their food-supply chiefly from domestic animals, some being nomadic herdsmen wandering from pasture to pasture, like the Tartar hordes of the Oriental steppes, others remaining stationary and storing up the food for their animals against the cold or dry seasons. We can easily overlook, in the midst of our varied food-supply, the enormous importance of his flocks and herds to the early man. But if we turn to the pages of the Zend Avesta or to the songs of the Rig Veda, we appreciate how all-absorbing to those primitive herdsmen was the care of their cows. The gods were likened to them, and in Egypt, India, and elsewhere the animals themselves were deemed divine. They constituted the principal form of personal riches, and the Latin word for money, *pecunia*, remains to testify that they were the measure of value of possessions of all kinds. In the Veda "the cowherd" is a royal title.

Cattle, horses, dogs, goats, and sheep were tamed in Europe and Asia at a period too distant for calculation. In what is known as the Age of Solutré in France, remote in the Quaternary epoch, the remains of horses are exceedingly numerous, the bones of at least twenty thousand having been discovered at the station of that name, all of whom had been artificially dismembered and evidently slain for food. This has led archæologists to the belief that they were tamed at that time. The kitchen-middens of Denmark disclose the remains of no domestic animals but dogs. The old coast-dwellers probably raised them for the purpose of eating rather than hunting, as did the American Indians. But the relics of the pile dwellings on the Swiss lakes and on the plains of the river Po contain abundant bones of all the other species of the above-named animals.

Swine are not mentioned in the Avesta or the Vedas; therefore it is not likely that they were familiar to the Aryans of the earliest times; but in the Homeric poems they are frequently referred to; in Egypt they were tamed in the first dynasties; and the Mosaic prohibition in reference to their flesh indicates that they had at that date long been an article of food in common use. They constituted the main flesh-diet of ancient Italy, and in different varieties have been and are extensively bred by the Mongolian and Malayan nations.

Bees and fowls are of much later introduction. The honey with which the old Germans fermented their mead was collected from wild swarms; but the natives of Yucatan had learned to gather the swarms at the proper time and place them in hives. The honey and the wax from these domesticated bees were among the leading articles of commerce of these nations.

Influence of Agriculture.—The influence which the cultivation of products for food exerted on the national life was most profound. Except among the nomads of the Steppes, it promoted a settled disposition, the

permanence of houses, the habits of regulated labor and of foresight, and the preference of peace to war, government to anarchy. By removing man from the necessities of the constant conflict of the chase and its precarious results, he was led to rely on the fixed order of nature, to take advantage of it, and to note seasons and their changes. It allowed the congregation of large communities, and ensured the leisure which was necessary to higher intellectual cultivation.

The tenure of arable land led to methods for its mensuration and regulations for its ownership and transmission. Undoubtedly, the first problems of geometry were solved for the purpose of guarding the rights of cultivators. The period when each adult, or perhaps only each woman, was obliged to labor in the fields soon passed, and captives were employed as field-hands or persons for hire. In Mexico and Central America many who reaped the benefit of their agriculture operated entirely through gangs of slaves and hired laborers. The patriarchal habits recorded in the Pentateuch and the pictures on Egyptian tombs prove that four or five thousand years ago the gradation of classes was firmly established in agricultural communities.

No doubt at first only the most fertile spots were selected for cultivation, and others chosen when these showed signs of exhaustion, as is still the case with the improvident farmers of new countries. But the advantages of fertilizing and dampening the soil from time to time were not long in receiving recognition. The enormous works constructed for irrigation in very ancient times in the valleys of the Nile and Euphrates and by the Incas of Peru have no equals in modern times. They testify an appreciation of agricultural interests, and an intelligence in fostering them, which we are unaccustomed to witness in governments now-a-days.

The third method of obtaining the food-supply we have stated to be,

3. BY EXCHANGE AND COMMERCE.

Long before the time when Jacob sent his sons into Egypt to buy corn the purchase and sale of food had been a recognized branch of human industry. It required no protracted observation to discover that the hungry man or community will part with his or their choicest treasures to satisfy the demands of the appetite.

Arts Necessary to Commerce.—To carry out this industry many arts must be developed. Not only a surplus of food must be raised, but it must be preserved from decay, means of storing it must be devised, and its transportation to a considerable distance must be provided for. On the other hand, the purchasers must be prepared with desirable objects to offer in exchange for food. Residents in infertile districts are forced to develop what resources they have, to delve valued metals or stones from the mountains, to collect shells and amber from the seashore, or to create manufactures which will enable them to obtain by exchange the sustenance which their own acreage refuses them.

Influence on Social Life.—A developed and permanent system of procuring food by exchange permits men to gather together by millions in great cities, where all are dependent on the distant agriculturist, thousands of miles away perhaps, for their daily bread. Vast masses of men are born and die in such centres who would not know a field of wheat were they to see it. But their time is employed not less usefully than that of the farmer, following as they do one or another of those multifarious vocations demanded by the complicated existence of modern society. The great standing armies of modern times have only been possible by the increased facilities of transporting food—a relation well understood by the military sagacity of the ancient Romans, who extended their admirable system of road-making to the farthest limits of the empire. The impetus given to the growth of cities in the present century is directly attributable to the successful application of steam to the transportation of food. When in New York fresh beef is sold which was slaughtered a thousand miles away, the food-supply seems to have reached a maximum of perfection.

The ordinary dinner-table offers articles of food from every zone and all continents, the cultivation, preparation, and transportation of which have required the development of an extraordinary number of arts, sciences, and mechanical inventions, the underlying stimulus of all being to satisfy the appetite.

This system of obtaining food has worked a most desirable improvement in human history in one direction; and that is, in checking the appearance of those destructive famines which in former ages periodically scourged the world. At present no such widespread misery could occur, as in all years the average crop of the world will support its population, and the present facilities for its distribution would permit no permanent want to continue.

4. STIMULANTS AND NARCOTICS.

The mere gratification of their physical wants by food and drink has never satisfied the appetites of men. They have unceasingly sought some substance which would act more directly on the nervous system, exciting its sensory powers or modifying the brain action; and in spite of the many and grievous injuries which this yearning has entailed upon mankind at various times, it has also been a most potent incentive to productive exertion.

Both the animal and vegetable worlds supply such nervines. From the milk of his mares the Tartar prepares his mildly intoxicating koumiss, and from the honey of his bees the Teuton warrior obtained the foaming mead wherewith to fill his horn; the "barley brew" was famous in ancient Egypt; the pulque, from the fermented juice of the aloe, was only too popular among the Mexicans long before Columbus; palm wine is the beverage of Central Africa; beers from millet, rye, rice, and other grains where these are raised; and cider and perry from apples and pears.

The fruit of the vine has yielded its ruddy liquor to man in Eastern Asia from ages long before the beginning of history. Those nations who had discovered no alcoholic beverage sought nervines from other chemical series. The Kamchatkan steeps a poisonous fungus in water, a draught which drives him into frenzy and unconsciousness; the Creek Indians collected the emetic and drastic roots of the cassine or blue flag and by violent vomiting and purging produced a hebetude of the intellect; the California tribes had discovered how to disorder their brains with the chucuaco; while tea from China, coffee from Arabia, coca from Brazil, opium from India, and tobacco from America have made the conquest of the world. The distillation of alcohol merely flavored with the organic elements of plants led to the wholesale introduction of the numerous "spirits" which now exert such a disastrous effect on the lives of millions of the highest races.

Apart from such examples of notorious abuse of these accessories to food, physicians are not of one mind as to their effect on the race at large, although it is one of the most vital questions of modern life. The absolute prohibition of alcoholic drinks by the great religions Brahmanism, Buddhism, and Mohammedanism has driven their votaries to indulgence in hasheesh, opium, and tea, nor has it elevated them to an equality with the adherents of Christianity, which teaches temperance in all things, but not abstinence from anything. The theory that wine, tea, or coffee by stimulating the brain-power has assisted the forces of modern civilization has no serious arguments in its favor; indeed, more can be said for the reverse opinion, that the extended introduction of tobacco during the last three centuries has deteriorated the nervous systems, aggressive powers, and vital energy of the nations most addicted to it, as the Spanish Americans and the Hollanders.

So strong, however, has been the attraction of these articles to the race that their cultivation, preparation, and sale have been among the most urgent motives of agriculture, arts, and traffic. Tobacco was known among the American Indians from Chili to Canada. It was a favorite object of barter. The pipes in which to smoke it were elaborately carved, and evidently prized as treasured possessions, among the mysterious Mound-builders of the Ohio Valley. The history of wine, its manufacture and sale, the planting of vineyards, the introduction of the grape in other lands,—all this, if fully set forth, would be a picture in little of the course of Aryan civilization. The culture of coffee has led to the reclaiming of millions of acres that would otherwise still be covered with tropical forests.

5. THE PREPARATION OF FOOD.

Many of the natural products used as foods are not found in the precise condition in which they can be eaten. A striking example of this is the cassava, *Manihot utilissima*, which furnishes the staple article of diet for many South American tribes. As the roots are dug up in the woods

they are so far from edible that it is a wonder how these wild people ever discovered the tedious process by which they become so. The root must first be peeled, then grated, and then hung up in nets to allow the poisonous juice which it contains to drain off. The product is then dried, beaten, and sifted to the condition of a coarse meal, which is cooked in thin cakes. The time of the women is principally occupied in this toilsome drudgery.

The agent which man has most constantly employed in the preparation of his food is *fire*. He is essentially a cooking animal. When he discovered this serviceable element is unknown. No tribe has ever been found ignorant of it. Probably it was one of his very earliest acquisitions. In the bone-caves of Belgium, in the river-drift of France in strata dating from the period when the elephant and rhinoceros made that land their home, are found fire-cracked flints and charcoal from the primitive hearths (Mortillet). The wide diffusion of fire shows that it was not so much prized for its warmth as for other uses. Most savage races are little sensible to cold, and in the tropics its importance in this respect was slight. Its chief purposes were to give light and to cook food. An aversion to raw flesh is common among the rudest people. The Australians, who are often quoted as at the bottom of the scale, prefer to cook the worms and reptiles they are willing to eat. The wild hunting tribes of Eastern Canada distinguished the shore-dwellers as *Eskimos*, which means "raw-fish eaters"—a term of opprobrium because they did not cook the fish they caught. All the cultivated cereals require the use of fire in their preparation, and many of the roots, leaves, and fruits of the forest first become nutritious to man when they have been subjected to the action of this element.

Roasting over the fire and burying in hot ashes are the simplest forms of cookery, and doubtless were the earliest. Seething in heated water could only be accomplished when appropriate vessels were at hand. These might be made of wood or fine network of grass, as is seen among the Indians of the Plains, the water being heated by dropping in hot stones. Vessels could be chipped out of soft stones, as the soapstone pots of California and elsewhere; and that a main incentive to the discovery and improvement of pottery was a desire for more serviceable cooking utensils is obvious from their character.

II. THE SEXUAL RELATION.

Origin of Sex.—The bisexual division of the species into male and female is by no means universal among animals. Some of these, in a rather high stage of development, have but one sex. Why the distinction of the two sexes arose has not been fully explained by naturalists. Spencer and Darwin suggest that the vitality of a species is strengthened by the crossing of blood. It is doubtless a part of that general specialization of function which we witness in tracing the evolution of organic forms everywhere. The important process of reproduction is more thoroughly performed by a division of labor.

Primitive Relation of the Sexes.—The relation of the sexes in the primitive condition of the human species has been supposed by several later writers to have been one of promiscuity—that called “communal marriage,” where no tie stronger than caprice existed between the sexes. As Darwin has pointed out, however, this is contrary to the analogy of many species of animals, particularly the highest mammals. They are generally either monogamous or polygamous, and the males wage bitter conflicts to retain the exclusive possession of the females. Nor do the latter seek other males.

The emotions of modesty in woman and jealousy in man, which are usually found fully developed in savage tribes, indicate that chastity and fidelity are traits of the race. In such communities adultery is, as a rule, severely punished, though it may be differently understood than as among us. Among a certain community of Nubian Arabs the wife is held to a rigid fidelity three days out of four, while on the fourth she is free to act as she likes. During some religious festivals, even among civilized nations, the bonds of marriage have been released by a common consent. The Dogrib Indian is of a jealous disposition, and will brutally beat his wife whom he suspects of improprieties, but he will loan her temporarily to a guest without hesitation. In all such cases the theory of morals of a community must first be understood before we pronounce on their views of the sexual relation.

Undoubtedly, the most usual form of marriage has always been polygamy. The male chose two or more females as his companions, and did his best to prevent any relations arising between them and other males. The number he chose was limited only by his ability to support and protect them against his fellows. Such was marriage throughout most of the ancient world, and also as it exists now in nearly all non-Christian nations. It is the rare exception to find either the law of the land, the prejudices of society, or the dogmas of religion pronounce against it. Darwin relates that an intelligent Kandyan chief, brought up, of course, in the polygamous notions of his tribe, was quite scandalized at the barbarism, as it appeared to him, of living with only one wife until separated by death. “Why,” he exclaimed, “it is just like the wanderoo monkeys!” The large and generally intelligent body of the Mormons in the midst of the monogamous population of the United States cling tenaciously to their polygamous doctrines and practices, and defend them with earnest arguments. Their position may be regarded as a reversion to the formerly universal practice of the race.

Polyandry.—A stranger form of marriage is polyandry, where the woman has several husbands living peacefully together. Although this is comparatively rare, some ethnologists have assigned it a high importance, and asserted that at one time it was the prevailing custom with the race. These writers (McLennan, Lubbock, etc.) argue that at first the relation of the sexes was that of promiscuity, to this followed polyandry, and after that either polygamy or monogamy. Their order of social

development is—first, the tribe ; second, the gens or household ; and, last of all, the family. The household consisted of one wife with her various husbands. These husbands were sometimes unrelated men who agreed among themselves to this arrangement, or they were brethren or near of kin. The latter form of polyandry appears in greatest perfection in some tribes in Thibet, where all the brothers of a family have but one wife in common ; and a closely similar arrangement prevailed, according to Cæsar, among the Britons of his time, and continues to-day in the Neilgherry Hills, India, and with the Herero tribe of South Africa.

Among some of the Eskimos, Aleutians, and Kolushes of the north and north-west coasts of America a married woman is the wife of all the married men of the tribe, and each married man is husband of all the married women ; but this does not prevent the distinctions between the married and unmarried from being rigidly observed.

Polyandry can become the prevailing form of marriage only where there is a great scarcity of women, as it is certainly contrary to the feeling of proprietorship and the emotion of jealousy seen in all races. Its origin was from the custom of exposing female infants at birth or of selling them as slaves. As in all lands and all conditions of society the births of the two sexes are about equal, and as the male child soon becomes able to assist in defending and supporting the family, he was preserved and the female child destroyed. It is also obvious that in the struggle for existence it is easier for three men to support one woman, than for one man to support three women, with the children that result from the union.

Monogamy.—Strictly monogamous tribes among the ruder races of mankind are rare, but not unknown. The Veddahs of Ceylon are an example. Each male takes but one wife, and is true to her alone until separated by death. The same has been said of some American tribes—the Seminoles and Chetimashas—but the evidence is not conclusive.

Monogamy was the law among the ancient Romans, but its diffusion over the world, and the recognition of its position as the only relation of the sexes consistent with the highest development of the race, are due to Christianity. In the early Church a canonical law dating from 400 A. D. pronounced a marriage indissoluble ; and this is still the doctrine of the Roman Catholic Church ; but most other Christian communities understand that monogamy means merely to live with one wife or husband at one time, and permit divorce and the selection of other mates for reasons sufficient to satisfy the law of the state where one is resident.

FORMS OF MARRIAGE.

The ceremonies attendant on wooing and wedding are indicative of the position of woman in a community and of the influence she exerts over national life.

Marriage by Violence.—It has been maintained by some writers that in primitive society women were, as a rule, stolen, and that what the

Scotch and English borderers called "bride-lifting" was the customary method of securing a wife. The clan being small and marriages within its limits being prohibited, or the available females having been already monopolized by the system of polygamy, prompted by the zest of novelty the youth would sally forth to snatch a bride from the enemy's camp. The old Roman story of the rape of the Sabines seems to point to such a usage, and to this day it is common among the natives of Australia. When one of these wishes a mate he looks about the camp of some hostile tribe until he sees a girl whom he fancies. At night, when she is sleeping by the fire, he creeps near and winds the point of his long spear in her hair. By gently drawing it toward him she is wakened to discover herself his prisoner. She knows that at the least outcry the spear-point will be driven into her neck and the daring brave will escape in the darkness. Therefore she follows without a murmur. Such is the account given by some travellers, but others say that no such bloody intention is present—that this midnight assault is merely symbolic, and to gratify the coquettishness of the dark-skinned belles, who are not willing to yield except to this pretence of violence; just as the Tartar must win his bride by overtaking her when in full gallop on her palfrey, or as in more refined society the ladies wish to be long wooed before they are won.

Of course, here and there in the world there are instances of kidnapping girls or stealing women, but it is rare indeed that this was the accepted form of securing a mate. The symbolic ceremonies which have been adduced to prove that at one time it was the universal custom are not survivals of an ancient method, but are to be understood as salves to the modesty and coquettishness of maidens—qualities which are markedly prominent in the females of many of the lower species. So far are the Australians from being an example in point that Mr. Huth, who carefully investigated the subject, says in his work on marriage that in Australia the old men secure most of the girls and the young men have to put up with the discarded wives of their elders.

Marriage by Purchase.—What is called marriage by purchase is the most frequent of all, though in most instances this is not a correct name for it. The examples are rare where an out-and-out sale is effected. The Circassian girls were deliberately sold by their families to the Persians and Turks, and in various patriarchal tribes, where the father was vested with absolute rights over his children, he disposed of his daughters to the highest bidder with as little compunction as he would one of his domestic animals. This is often said to be the habit of most American tribes; but Dr. Matthews and other observers who have had opportunities to examine their social life closely state that the articles of value paid to the parents of the girl are not considered as a price for her, but as a pledge that she will be properly treated and as a proof that the aspirant's affection for her is ardent. They often also require evidence that he is a skilled hunter or a valiant warrior, thus securing the safety and sustenance of their daughter

to the extent of their power. Through a misunderstanding of the purpose of these customs they have been represented as of a more debased character than they really are.

Other Forms of Marriage.—In some tribes, as among the Shawnees, Osages, and Creeks in America, the girl made her own selection of a husband without consulting her family. She bargained for the gifts she was to receive, and rejected such suitors as did not please her. Frequently it was a matter of negotiation between the elders, very much as it is to-day among the noble families of Europe, and with a like disregard of the feelings of the parties concerned. Mr. Sanborn states that in ancient times among the Iroquois the old women selected wives for the young men, and married them with painful uniformity to women several years their seniors. Among the Aztecs there was a special class of matchmakers who negotiated unions between the scions of noble families, and some of their cut-and-dried orations which have been preserved to us by Sahagun would not sound amiss in our best society to-day.

The highest form of marriage, and the one which alone should obtain in enlightened communities, is that which is based on personal acquaintance and intelligent affection. Such a marriage becomes, in the words of an eloquent writer, "the loftiest earthly illustration of crowned and completed love," and is most certain to increase the happiness of the individuals and to develop the noblest qualities of the race.

LIMITATIONS OF MARRIAGE.

Prohibitions of Marriage.—The various prohibitions and limitations of marriage have exercised a marked effect on the condition and history of nations. There is probably little scientific ground for any of these restrictions. They seem all to have arisen either from superstitious fears or from political and social considerations. Absolute prohibition of the sexual relation has been the rule of some communities obligatory on all members. Necessarily, either this had to be modified, or the community depended solely on new recruits for its continuance. Several religious associations in the United States have been commenced on this plan. Many creeds enjoin complete or partial abstinence on their ministers of both sexes. The "medicine-men" of the Manhattan Indians were so rigid that not only did they refrain from all contact with women, but they would not partake of a dish prepared by one of that sex. The "Virgins of the Fire" in Yucatan, and those of the Hearth, or the Vestals, of ancient Rome, were condemned to perfect chastity on pain of death. The Buddhist priesthood, numbering hundreds of thousands in Central Asia and Thibet, are under vows of continence; and it need scarcely be added that the nuns and priests of the Roman Catholic Church are subjected to equally absolute restrictions in this respect.

Restrictions through Kinship.—Even among savage tribes the objection to marrying near of kin is curiously prevalent. It obtains in an exaggerated degree among civilized nations, and it has received the strongest

support from both religious and political authorities. In A.D. 741, Pope Zacharias informed King Pepin of France that marriage was forbidden by the Church wherever any relationship, no matter how remote, could be traced. Although this has not been maintained in its stringency in modern countries, the civil law prohibits marriages between certain degrees of relationship, and sometimes, as in England, where the marriage with a deceased wife's sister is illegal, with connections which are not consanguine.

The origin of such prejudices is difficult to explain. They could not have arisen from the observed ill effects of consanguine unions, for even with the facilities of modern investigations physicians are far from united in the opinion that such marriages exert any ill effect; and if they do, it is from exaggerating an inherited tendency to disease, to counteract which the prohibition should be not of marriage of kin, but of marriage between persons with such tendencies. Moreover, there are many well-known instances, both of families and tribes, where close interbreeding has developed a very high standard of physical perfection. It is sufficient to mention the Polynesians of the small islands of the South Sea forced by their insular position to marry near relatives for many generations; yet all writers agree in assigning to them a marked pre-eminence in physical conformation, rivalling indeed the finest statues of antiquity.

The conclusion reached by Mr. Huth in his work on marriage is to the effect that, "as far as a deduction may be trusted from the general customs of men, no marriage is prohibited by nature unless the parties are of an age unsuited to each other." The suggestion is made by Darwin that the objection to such unions arises from the sexual indifference with which young persons who have been brought up in the same house regard each other, and the instinctive desire of novelty which prompts the youth to seek a companion elsewhere than in his own home-circle. This feeling, without much rational foundation, became increased by descent, and finally took the form of the pronounced aversion so generally current at present to marriages called incestuous.

Irrational Examples of Marriage.—That it has little rational foundation is evident from the fact that the degrees of affinity are calculated entirely differently in different nations, as in the English case above referred to, and in Germany, where it is quite customary for the uncle to marry the niece, which in most parts of the United States would be illegal. Moreover, the prejudice against close intermarriages has been by no means universal. In ancient Persia it was esteemed not merely proper, but meritorious, for a man to marry his sister or his widowed mother. The Ptolemies of Egypt and the Incas of Peru were wedded to their sisters for reasons of state, and there are numerous similar examples.

Where the system of clan-relationship prevails the prohibition based on relationship often extends to every member of the clan, even where the individuals may be members only by adoption, and therefore no kin whatever. In China there are some villages of about five thousand souls

who are all considered akin, and no unions between their members are permitted. The clans of many American and Australian tribes are equally exclusive. Quite in contrast to this, the Druses of Mount Lebanon are said always to marry cousins, and have observed this rule since about 1020 A.D.; and yet they are celebrated as a vigorous people and the males as brave warriors. There is, therefore, no evidence that the restriction of marriage on the mere ground of kinship arose from observations of its deleterious effects, but rather out of superstitious reasons or the love of variety.

In highly-civilized communities there are always a large number of unmarried persons of both sexes who are impelled to the single life by social considerations. They are the "old maids" and "old bachelors" who have not had an opportunity to marry to their liking, and hence have refrained from the act altogether. This class is entirely unknown in savage life, and almost so in the lower strata of civilized society; as, for instance, among the colored population of the United States. It increases with wealth and luxury and the competition in social life. Juvenal noted it as one of the signs of decay in ancient Rome, and it is a potent element in bringing about the extinction of prominent families.

EFFECTS ON POPULATION.

Some writers have maintained that the form of marriage in vogue in a nation exerts an influence on the sex of children; that in polygamy more females, in polyandry more males, are born, and that thus the average of sexes in a community becomes adapted to the prevailing customs. This has been disproved by statistics from Oriental harems, where the births are found to bear the same proportion of sexes as in monogamous countries. The scarcity of women where polyandry is the rule has been shown to arise from the destruction of female infants and the selling of the girls to other tribes at a tender age.

The apparently diminished fecundity of savage races is partly apparent only, the small families observed being attributable to large infant mortality, which is often the deliberate result of the neglect and exposure of infants, often the consequence of ignorance and unsanitary conditions. But there are also certain causes at work in the ruder states of society which directly tend to limit the size of families and react injuriously on the race. One of the most potent of these is *premature marriage*. Mothers of the age of thirteen years are not uncommon among the Hot-tentots, and with the Australians wives as young as twelve, eleven, and even nine, years are frequently seen. Such premature demands upon the sexual function lead to its equally premature exhaustion, and the woman loses all appearance of youth before she has reached middle age. Giving birth to children before she has attained her own full development and stature, it is impossible that the mother can transmit to them either the full physical or mental average of the race, and the consequence is that very early marriages tend to deteriorate the stock. It is not an accidental

coincidence that these two races, among whom travellers report the custom of excessively early marriages, stand at the bottom of the scale of humanity.

Scarcely less injurious is the early marriage or the precocious licentiousness of the males. Either brings with it sexual exhaustion and a lowering of the vigor of mind and body. The truth of this was a matter of observation among even savage nations. The most warlike tribe of North America, the Iroquois, required their braves to remain not only single, but chaste, up to the age of thirty years; the Abipones of the Gran Chaco of South America, also celebrated for their hardihood, did not permit marriages until both sexes had reached full growth; and the edicts of the Incas of Peru prescribed twenty-four as the proper age at which a man should contract marriage.

Early marriages also tend to depreciate the mental culture of a community by abbreviating the period which can be devoted to education. The cares and the support of a family are thrown upon young parents who have not had the time to equip themselves in the most effective manner for the battle of life. This fact makes itself so apparent in the complex society of civilization that a steady rise in the ages of those marrying is observable in enlightened countries. This may proceed too far, and produce either a postponement of marriage beyond its most fitting physiological period, or an aversion to the duties which the bearing and rearing of children entail. This seems to have become the case with the white race whose families have for generations lived in the Eastern United States. Statistics show that in the present day the average number of children to each marriage is materially less than it was in the last century. Physicians attribute this to the over-development of the brain and nervous system, to the habit of late marriages in both sexes, and to a repugnance to the annoying cares inseparable from a family of children.

LAWS OF DESCENT.

Matriarchal System.—With rare exceptions the white race have from the earliest historic times traced relationship principally through the father's line. His name is borne and property descends through him. Even where, as in Spain, the mother as well as the father transmits her family name to the children, that of the father has the pre-eminence. Herodotus mentioned it as a remarkable, and indeed unparalleled, custom of the Lycians that they traced descent through the mother's line only. Later observation has discovered that this prevails extensively in quite diverse races, especially among the Australians, Americans, and Malaysians. By their laws a man must seek his wife in some other clan than his own, and the children born to the pair belong not to the clan of the father, but to that of the mother. They bear the name of her family, are subject only to its laws, and if slain the duty of blood-revenge devolves upon the mother's kindred, not, as a rule, on the father or his clan. Theoretically,

they are not related to him, and he has no right to punish them for disobedience. The property and the hereditary honors belonging to the father do not pass to his sons, but to his own brothers' or sisters' children. Hence he may find himself opposed to his own children in the conflicts of clans, and filial affection, as we understand it, has no place in such a scheme, any more than paternal authority.

This has been called the "matriarchal" system of the family as distinguished from the patriarchal. Though not often carried out to the full extent above depicted, it exists in principle very widely. In their speculations on the origin of what seems so unnatural a system of relationship ethnologists have usually attributed it to the uncertainty of paternity in savage communities. They have adduced it as a proof of the general promiscuity of unions in remote times, and have sought to show that at some epoch it was common throughout the world. More probably it was based on the plain facts that the mother brings the child into the world, nourishes and cares for it during infancy, and throughout life watches it with a stronger affection than the father. Hence it was natural for her to be regarded as more directly its parent than the father.

Patriarchal and Agnatic Systems.—The system of "agnation," in which the relationship is counted through the father's side only, as it prevailed in ancient Rome and in the patriarchal communities of the East, was also found in a few of the hunting tribes of North America. Its tendency was to place the woman on a lower plane. She was regarded as little better than a chattel and the slave of her husband. In the Roman agnatic family the woman was always in a state of tutelage, whether married or unmarried—in the latter case from her father, in the former from her husband. The American tribe in the area of the United States which has been said to show the most brutal treatment of wives is the Dakota, among whom there are few clans reckoning kinship through the females.

SOCIAL POSITION OF WOMAN.

The position of woman as the representative of the clan, and as the only parent through whom kinship is traced, necessarily confers upon her prerogatives which she would not otherwise enjoy. Property rights become vested in her, and the possessions acquired by her husband are more hers than his. This has been noticed with some astonishment by travellers who did not understand this feature of savage society. A missionary among the Shawnee Indians writes: "The women are the only drudges, and yet they own all the property." Captain Gregg remarks of the Osages of the Western Plains that the "oldest daughter on her marriage comes into possession of all the family property."

Gynocracy in Savage Life.—As a general rule, the woman in savage life wields a greater influence than the superficial observer, who witnesses the constant toil and frequent ill-treatment to which she is subject, is apt to suppose. What Captain W. P. Clark has remarked of the Indians of

the Plains holds good generally of the social power of the females in uncivilized communities: "Though not as a rule permitted to be present at the councils, and not allowed to join the men in the more important feasts, the women exercise a great influence over the warriors. Their shrill songs of encouragement urge on the departing war-party to greater exertions, to braver deeds, and the same shrill voices give them praise and welcome on their return, and, should any have fallen, for days their weird chanting fills the air of the camp with the great deeds of those who have been slain; and this honor*is dearly prized by the savage heart. In this and many other ways they shape and control the public feeling and opinion of the camp; and this is the greatest force which controls the destiny of Indian tribes."

But their power is frequently more positive than this. Among all the tribes of the stock of the Iroquois in the New World, and very generally among the Tartar hordes of Asia, the women took part in the councils, advised openly on matters of public welfare, and often cast the deciding voice on questions of peace or war and in the election of rulers. Nor is it at all an uncommon occurrence to find a female the chief ruler of savage tribes, and all the men belonging to it submissive to her commands. The records of the monarchies of the Old World preserve the memory of some famous queens, as Semiramis, Cleopatra, Zenobia, and the queen of Sheba; in Africa, nations much lower in the scale of development than these have been found under the supremacy of female chiefs; and in America such instances may be said to have been frequent. Thus, among the earliest of the historic figures of the red race is "Anacoana, queen of the Caribs," whose fate has been chosen as the theme of song and story by more than one writer of the day; when Hernando de Soto plunged into the untracked wilderness to find the Mississippi River, he was met somewhere near the southernmost spurs of the Appalachian Mountains by the "empress" of a powerful native tribe, perhaps the Uchees; later, when the French explored the lower waters of the Great River, they came into contact with the Natchez, a tribe of noteworthy culture, who lived under the rule of a woman who bore the title "The Great Sun." Her power was hereditary, but it did not pass to the children of her husband, but to those of her brothers or sisters. The annals of the warlike Aztecs record that when one of their emperors had died without heirs male, his daughter ascended the throne and was an acceptable ruler over his extensive domains.

The numerous examples of this character which have been adduced by travellers and historians go far to modify the opinion widely entertained that the position of woman in the ruder stages of culture is always one of debasement and slavery. The most intelligent ethnologists do not entertain this opinion. Thus, Mr. Horatio Hale says in a recent work, "The common notion that women among the Indians were treated as inferiors and made 'beasts of burden' is unfounded among all tribes of which I have any knowledge. With them, as with civilized communities,

the work of the community and the cares of the family are fairly divided. The hunting and fishing, the house-building and canoe-making, fall to the men. The women cook, make clothing, scratch the ground with their hoes, plant and gather the crops, and take care of the children. The household goods belong to the woman. On her death her relatives, and not her husband's, claim them. The children are also hers; they belonged to her clan, and in case of a separation they also went with her. Among the Iroquois she was really the head of the household; and in this capacity her right, when she chanced to be the oldest matron of a noble family, to select the successor to a deceased chief of that family, was recognized by the highest law of the confederacy."

The earliest missionaries bear testimony to the general correctness of this opinion. Thus, one of them informs us that among the Hurons of Canada thirty strings of wampum were generally considered sufficient satisfaction for the murder of a man by one of his fellow-tribesmen, but for a woman forty strings were required, the reasons they gave being that a woman is less able to defend herself than a man; that as her sex is the source whence the land is peopled, her life is of greater value to the commonwealth; and that her weakness should have a stronger support in public justice.

In most such communities the affection of children toward their mother is stronger than toward their father. Among the Hereros, a Caffir tribe in South-west Africa, the traveller Anderson states that the most solemn oath a native can take is to swear "by the tears of my mother;" and Mungo Park tells of a Mandingo boy who exclaimed, "Beat me if you wish, but do not scold my mother."

Impressed by facts such as we have just related, some ethnologists have gone to the other extreme and brought forward the hypothesis that in ancient society woman was the stronger sex, that she held man in subjection, and that only by a violent revolution could he escape from her bondage! We may pass this by as one of the vagaries of science, but it is worth mentioning, as it indicates how numerous are the evidences that the opinion of her constant subjection in primitive communities is unfounded.

The Grounds of Sexual Attraction.—The instinct which prompts to sexual selection and marriage is *love*. As an instinct it is quite marked in monogamous monkeys and birds, and in some of them it is permanent. In man it rises to the dignity of a sentiment—one that is frequently both enduring and powerful and demands the attention of the ethnologist.

What is the foundation of the attraction which leads the male to select one particular female rather than another, and which leads her, when free to act, to reciprocate in some instances and not in others, has not been explained. The laws of sexual selection laid down by the followers of Darwin as holding good in the lower species confessedly fail when applied to man. That such mutual attractions do exist, even in the rudest conditions of society, cannot successfully be questioned. There are indeed

some tribes of limited extent, and usually corrupted by proximity with other races, whose marriages seem inferior to the pairing of birds; but these are exceptions.

Terms of Endearment.—The absence of terms of endearment and modes of caressing in certain languages and nations is not to be construed into meaning that the tribes entertain no sentiments corresponding with these acts and expressions. Nations, like individuals, vary widely in their demonstrativeness, and their terms, moreover, may not be similar to those with which the observer is familiar. Nor is there any dearth of terms of endearment in some of such tongues. The Nahuatl, spoken by the Aztecs and allied tribes of Mexico, is extraordinarily rich in expressions of affection, as may be seen by looking in the appendix of Olmos' Grammar of that idiom. A recent Grammar of the Quichua language of Peru, that spoken by the Incas, traces out and assigns the shades of meaning to six hundred and seventy-five variations of the verb "to love." Several Negro dialects are mentioned as quite rich in similar terms.

Modes of Caressing.—Modes of caressing, like methods of salutation, are matters of local custom. Kissing, so familiar with us, was probably unknown throughout America before the discovery, as it certainly was in Australia, the South Sea Islands, New Zealand, and is still in most parts of Central Africa. An English traveller in the last-mentioned region relates that he was presented with a little slave-girl by one of the chiefs. To signify his feelings of kindness for her, he received her with a kiss, but it threw her into a spasm of terror. He learned afterward that such a mark of affection was unknown to her people, and that she had associated it with the habit of the boa-constrictor to lick its prey before swallowing it, and feared that her new protector was about to eat her!

Suicide for Love.—Positive evidence of the strength of the passion of love in the lower races is given by their readiness to destroy themselves when they cannot obtain the object of their hopes. Of all the aspersions which the fair Rosalind chose to cast upon the male sex, none was less true than that "men have died from time to time, and worms have eaten them, but not for love." Suicide, not unknown among the higher brutes, is frequent for comparatively trivial causes with some varieties of men, and unrequited love is a common motive. Perhaps more frequent are the suicides of females for this cause. Mrs. Eastman, in her description of life among the Sioux Indians, says that rarely did a season pass without the incident of some young girl destroying herself on account of impediments placed in the way of her affections.

III. LANGUAGE.

On p. 52 the different stocks of languages have been discussed when considered as a means of classifying the varieties of the human race. We turn in the present section to language in its general sense as a motive-power in the development of society, and shall consider the influence it wields over the destiny of nations.

Definition.—In this sense language is not confined to vocal utterance. It includes all means by which emotions are evoked and ideas communicated. This may be by signs or speech, and speech may be inarticulate or articulate; it may be of “winged words” or it may be in written records; and either of these may in turn take the form of the measured and intoned lines which we call poetry or the plainer and colder garb of prose. As a nation cultivates one or another of these with assiduity, its character is revealed and its position in the world’s history is fixed.

Language among the Lower Animals.—In this broad meaning language is not confined to man. Many of the lower animals possess some means of communicating information to each other, and some of them to a degree which it puzzles naturalists to explain. Every one has heard anecdotes to this effect of dogs and birds. The chirps and songs of the latter serve to warn the flock of approaching danger, to call their mates, to cheer their young, and the like. The story of the dog who, having had his own broken leg bandaged by a kind-hearted surgeon, came the next day bringing a canine friend suffering from a similar accident, is authentic. In some way the first dog communicated a considerable amount of information to his friend in the transaction. It seems improbable that communities so well organized as those of bees and ants could be carried on without rather extended means of imparting knowledge.

With the human species language is an essential bond of society, and no political organization of importance could have come into being until men had learned to talk.

I. GESTURE- OR SIGN-LANGUAGE.

Much of the intercommunication of brutes is by gestures. The dog will fawn to show his submissiveness, jump and spring around his master to manifest his joy, catch and pull the clothing to induce a person to go in a certain direction, and the like. Certain members of the human race, the deaf-mutes, are obliged to have recourse to the same means to make their thoughts known. By judicious cultivation they have developed a sign-language which answers all the purposes of ordinary life, and even reaches to many higher topics. They can thus converse with accuracy and rapidity.

Nor is it confined to these unfortunate persons. Some nations with well-developed languages cultivate out of preference the use of signs and gestures in ordinary intercourse. The Neapolitans and Sicilians are celebrated for this peculiarity. Though possessing rich and varied dialects, they constantly resort to gestures to give their words emphasis, and have perfected these to such an extent that they can carry on conversation without the use of words. A traveller mentions that in Naples he visited the opera with a citizen of the town. The latter recognized a friend across the theatre, and exchanged some signs with him, by which, he informed the traveller, he had learned that this friend had been absent three years, during which time he had been married; had travelled in

Austria and France ; had been blessed with a daughter, whom he had had the misfortune to lose; and had returned the day before. By subsequent inquiry the traveller learned that these were the facts communicated.

To some extent this reliance upon gestures to express the meaning is universal. Even among the studiously undemonstrative Englishmen, with whom, since the condemnation of them by Addison, it has been considered unbecoming to employ gestures even in public speaking, one will observe grimaces and movements of the arms in moments of excitement. But probably its most notable example is among the Indians of North America. They have a sign-language of unknown antiquity, understood over a wide area, and in which they are capable of conducting protracted conversation. To a certain extent, this language is the same everywhere. But these identities are not evidences of derivation from a common centre; they merely show that a number of objects and actions suggest the same simple and obvious signs for their expression. To incline the head and close the eyes, or rest it a moment on the hand, would always suggest sleep; moving the hands backward and forward with the fingers extended is an imitation of the motions of the feet, and signifies walking; to imitate the bending of a bow to shoot an arrow indicates that this weapon is meant. In these and in very many more signs those current in our educational institutions for the training of deaf-mutes are identical with those in use among the Indian tribes of the Western Plains. As has been said above, the obvious explanation of this is that the same signs suggest themselves to all. In this sense, and in no other, are we to understand the expression of Dr. Tylor, that "gesture-language is substantially the same among savage tribes all over the world."

The development of a gesture-language depends upon the genius of a people and upon the occasion it has to communicate with those of a different idiom. The old notion that it indicates poverty of expression in the spoken language is now exploded by accurate observation. The Neapolitan dialect is one of the richest of the Italian group, yet those who speak it delight in gestures. The Shoshonees of the Western Plains are celebrated for their free use of signs, and yet their vocabulary, so far from being meagre, is remarkably copious. The assertion of a Mexican bishop quoted in many books, and the later one of the same tenor published by Captain Burton, the English traveller, to the effect that there are tribes in North America whose tongues are so imperfect that they cannot converse without the aid of gestures, and therefore cannot talk in the dark, is an absurdity. As Colonel Mallery justly remarks: "All theories based upon the supposed poverty of American languages must be abandoned."

The value of such a means of exchanging ideas between scattered tribes explains its wide prevalence. By its use treaties are established, commercial intercourse carried on, instruction imparted and received, and the impassable barrier of an unknown tongue cleverly avoided. So completely does it answer the purpose that Captain Clark relates instances

where Indians of different tribes had been married for years and had never learned a word of each other's language, their communication being conducted entirely by signs. This excites the less astonishment as parallel instances are frequent with deaf-mutes.

Plan of Thought in Gesture-Language.—The study of the plan of thought in the sign-language is suggestive of that in some of the more primitive forms of vocal speech, especially the isolating languages (see p. 52). The articles, conjunctions, and prepositions are omitted, and adjectives follow the nouns. Verbs are given in the present tense, and both nouns and verbs appear only in the singular number, the idea of plurality being expressed in some other way. Abbreviation is constantly practised. To illustrate this, Captain Clark gives the following imaginary speech: "I arrived here to-day to make a treaty. I have with me one hundred lodges, which are camped beyond the Black Hills, near the Yellowstone River. You are a great chief. Take pity on me, for I am poor, and I have five children who are sick and without food. The snow is deep and the weather very cold." The signs used to convey this would be those for the following words: "I—arrive—to-day—make treaty. — My — hundred — lodge — camp — beyond — Hills — Black — near — River — Elk. — You — chief — great — to pity — I — poor — my — five — child — sick — food — wiped out —. Snow — deep — cold — strong."

2. INARTICULATE SPEECH.

The cries of animals and the wails and croonings of infants are examples of inarticulate speech. So also are many of the interjections and emotional expressions of adult men. The vocal sounds produced in addressing animals are generally inarticulate; that is to say, they are not divided by consonants and vowels into words arranged in grammatical sequence. A dog is called by whistling, swine by a prolonged vowel-sound, horses are urged to a faster gait by vocal clucks. The phonetic elements which appear in inarticulate speech may be entirely different from those in the articulate language of the locality. Thus, in the United States both horses and dogs are admonished by vocal utterances produced by inspiration, while not a single inspirant occurs in any Aryan language, and scarcely in any on the globe, except the idioms of the Bushmen and Hottentots of South Africa. The half-articulate baby language in which parents among the Iroquois talk to their very young children contains labials, a class of sounds wholly absent from the adult speech of the tribe.

The spontaneous expressions of the emotions are generally inarticulate. The scream of pain, the cry of joy, the exclamation of surprise or fright, are not words, but mere sounds, corresponding to the utterances of animals under similar conditions. These have already been referred to as one of the possible sources of true speech (see p. 50).

How little even the most cultivated nations are removed from those "touches of nature which make the whole world kin" is seen in the

meaningless chorus to many popular songs thrown in simply as emotional stimulants, as Shakespeare's

"Heigho ho! sing heigho ho! Ho! the green holly,"

or the melancholy Jaques'

"Ducdame, ducdame, ducdame,"

which we may understand as an intentional travesty on unmeaning choruses, and which he explains satirically as "a Greek invocation to call fools into a circle."

There is, however, a certain measure of sound philosophy in them. The emotional nature more readily sways to the gusts of passion when it is wholly uncontrolled by the intelligence. Sounds which are outbursts of feeling only, true "songs without words," are therefore more sure to elicit a response in the bosom of the audience than those which are framed in intelligible words, which occupy the intellect by communicating to it definite ideas. The prima donna who sings wild notes of passion to an audience who do not understand her language is more popular than she who recites the noblest songs of the common tongue. The chants of all rude nations are largely made up of these inarticulate sounds, sometimes altogether so. The Comanche dance-song is a monotonous repetition in the minor key of the syllables

He ya! a! he!
He ya! a! he!
He ya! a! he! etc.

The war-song of the Iroquois runs—

We yo hi yo we hi an,
We yo hi yo we hi an, etc.

In neither instance have the syllables any meaning. They are used solely to excite and maintain a certain emotional condition.

The language of affection approaches this inarticulate condition by dropping or altering the consonants of the usual speech, lengthening to an extraordinary degree the vowels, and indulging in frequent repetitions. The most celebrated example of this in the English language is Swift's correspondence with "Stella" and "Vanessa," but it is everywhere familiar to lovers and to "baby-talk." Even among the Tchuktchis of Siberia, Nordenskjöld relates that the girls when they would show their affection lisped in a softened and altered speech.

3. ARTICULATE SPEECH.

From the above we have seen that gesture and grimace on the one hand, and inarticulate cries on the other, make up very effective means of communication, and that the latter is in some respects a more efficient, and therefore to this day a more popular, avenue to convey and excite the

emotions than any other. For a long time probably they sufficed for the wants of the human race. But sign-language has one great drawback: it requires the light for its exercise, whereas it is especially in the loneliness of the night and darkness that man yearns for companionship and the exchange of thoughts. This as much as anything else was probably the motive that urged him to cultivate with particular assiduity his vocal organs and to train them to articulate speech. As has previously been suggested, this was at first principally by imitation, either of natural sounds or of his own inarticulate cries. An eminent authority on the subject, Professor W. D. Whitney, remarks: "Spoken language began when a cry of pain, wrung out by real suffering, was repeated in imitation, no longer as a mere instinctive utterance, but for the purpose of intimating to another 'I am suffering;' when an angry growl, the direct expression of passion, was reproduced to signify disapprobation and threatening; and the like."

Articulate differs from inarticulate speech both in the phonetic laws on which it is based and in the faculties to which it is addressed. Articulate sounds are made up of a succession of vowels and consonants, the former emitting a continuous sound, which the latter cut and break in a variety of ways, thus forming what we call *syllables*. These, either standing alone or combined, make up *words*, each representing some perception or idea of the intellect. This is the meaning or signification of the word, and when it is uttered the same idea is evoked in the mind of the hearer, provided he has already been taught the connection between the two. In most instances, as has been intimated, this connection is wholly artificial, and its knowledge is a matter of education. The sound represents the thought, but the association is an imaginary and factitious one. Were it otherwise, were the relation between the two real and permanent, there would be but one language on the globe, and it would be unchangeable.

From this statement it will be apparent that while inarticulate language addresses exclusively the emotional nature, articulate speech is directed primarily and solely to the intellectual faculties; and this constitutes a second and fundamental difference between the two varieties.

Influence of a Language on those Speaking it.—The importance of a study of languages for the purposes of ascertaining their relationship and tracing them to their common ancestral stock, and thus under certain restrictions demonstrating the affinities of nations, has already been adverted to (p. 49) as a prominent branch in the science of Ethnology. But this is by no means the only service which linguistics is prepared to furnish that science, perhaps not the most important one. The far more abstruse but vital question remains to be considered: What influence has the language of a nation on its thinking powers, and through these on all its capacities and fate?

Let it be remembered that the sounds, the genius, and the forms of a language are mainly traditional and hereditary; they are heirlooms handed down from anterior generations; and the national mind is chained to

them by fetters which it cannot break, and does not seek to, because it is not aware of their existence. All its thoughts are cast in the moulds thus inherited, nor is it capable of receiving the conceptions of tongues which have wider schemes of linguistic life. For example, in many lower languages there is no passive voice, and no substantive verb expressing abstractly the notion "to be." It is quite certain that individuals who have grown to adult years in the use of such tongues only, can never be brought to a clear comprehension of the ideas which we express by the grammatical forms mentioned.

Where such differences between languages are numerous, and where they include conceptions which are essential to the higher flights of the intellectual faculties, it is evident that the nation lacking these qualities in its language is put to a serious disadvantage in the progressive march of the race. It may, in fact, be by this condition absolutely incapacitated from reaching the higher levels of culture as long as it preserves its native tongue unchanged. So important did this aspect of linguistics appear to one of the profoundest writers of this century, Wilhelm von Humboldt, that he devoted the last and greatest work of his life to a demonstration of the influence which the structural differences of human speech exert on the mental development of the race.

Copious Vocabularies not a Proof of Excellence.—Although in that work Humboldt laid down with clearness the principles of this branch of ethnological science, many erroneous opinions still prevail on the subject. Thus it is often stated in writings of scientific pretensions that rude languages have limited vocabularies, and that a copious supply of words and synonymous expressions is one of the characteristics of a superior tongue. Both statements are quite erroneous. One might as well say that the interminable gabbling of some men is a proof of superior intellectual gifts. It is usually just the reverse. So it is with nations. Within the range of their ideas savages have frequently far more copious vocabularies than civilized nations. Thus it has been estimated that the natives of Tierra del Fuego, one of the lowest tribes of this continent, have a vocabulary of thirty thousand words, but it is all within the limits of the most concrete ideas, and is an exhausting catalogue of petty distinctions. The Eskimos have twenty words to signify fishing for particular kinds of animals, as seals, walrus, whales, etc., but have no word signifying "to fish" in general. So, many American dialects possess words with the meanings "to eat hard things," "to eat soft things," "to eat meat," "to eat fruit," etc., but no general word "to eat." Such apparent richness is actual poverty, and the student would be led widely astray who should quote it as a proof of the superiority of these tongues. It is not the mere extent, but the range and character of the vocabulary that are decisive in such cases.

Regularity of Structure.—Nor does regularity of structure or an abundance of grammatical forms offer any guarantee that a language belongs among those of the highest rank. On the contrary, both these traits are

more common in tongues of a low order of development. Where all verbs are regular and have but one conjugation, as is the case in various South American dialects and in others in India, it is indicative of a lack of picturesqueness and force in the language which reacts injuriously on its speakers. The very abundance of forms is a clog to the intellect, diverting the attention from the main and central thought of the proposition to occupy it with a quantity of useless accessory details. This is markedly the case in many American languages. To illustrate it we may quote the example given by Major J. W. Powell in his *Introduction to the Study of Indian Languages*: "A Ponca Indian, in saying that a man killed a rabbit, would have to say, 'The man, he, one, animate, standing, in the nominative case, purposely, killed, by shooting an arrow, the rabbit, he, the one, animate, sitting, in the objective case;' for the form of a verb, to kill, would have to be selected, and the verb changes its form by inflection and incorporated particles to denote person, number, and gender as animate or inanimate, and again as standing, sitting, or lying, and case as nominative, objective, etc.; the form of the verb would also express whether the killing was done accidentally or purposely, and whether it was done by shooting or by some other process, and, if by shooting, whether by bow and arrow or with a gun; and the form of the verb would in like manner have to express all these things relating to the object; that is, the person, number, gender, and case of the object; and from the multiplicity of forms of the verb 'to kill' this particular one would have to be selected. Perhaps one time in a million it would be the purpose to express all these particulars, and in that case the Indian would have the whole expression in one compact word; but in all the remaining cases in the million all of these particulars would have to be thought of in the selection of the form of the verb, when no valuable purpose would be accomplished thereby."

Capacity to Express Thoughts.—Nor can we accept the capacity of a language to express thoughts as an evidence of its excellence. It is a fact proved by the records of missionary labors in savage lands that the mysteries of religion, which are among the most recondite of all meditations, can be conveyed in the forms of any tongue yet discovered, though new words may have to be introduced. It is not at all certain, however, that those native born to these tongues understand the phrases as do their teachers. But the fact remains that the forms of the most barbarous languages are such that they may be developed to admit the expression of any kind of idea.

True Superiority of Language.—The true superiority of a language is shown not in one but in several particulars. Its tones, the phonetic elements which make up its alphabet, must be clear, positive, and harmonious; its grammatical structure must present the leading elements of the proposition in their simplicity, unencumbered by superfluous detail, and permit the secondary elements to be grouped around them in subordinate positions with a correct sense of linguistic perspective.

A language which has these characteristics will correspond most precisely in its expressions with the logical processes of thought, and will thus favor clear and progressive thinking and prompt comprehension. It will therefore act on the national mind as a stimulus and an incentive to intellectual pursuits.

Progress of Language.—Language being a faculty natural to man, it is, like all his faculties, capable of constant improvement, and has steadily advanced along with his other powers. The leading principle of its growth and improvement is strictly ethnological. It is found in the crossing of bloods on a large scale by the repeated intermixture of nations speaking different tongues. Those forms of speech often looked upon with contempt, the jargons, dialects, and mixed languages, are in reality the strong and healthy shoots put forth from an ancient stock, proving its vigor; and in the end these scions will be green and vigorous when the ancient tree is withering in a dry rot. As an eminent linguist has eloquently said, "The seemingly aimless and confused interminglings of primitive tribes sowed the seed for the flowers of speech and song which flourished in centuries long posterior" (Wilhelm von Humboldt).

Admixtures.—If it be asked in what manner the admixtures of languages lead to their improvement, the reply is, That they are thus obliged to drop all unnecessary accessory elements in a proposition; that the relations of ideas must be expressed by conventional and not significant syllables, thus defining the distinction between the material and the merely formal parts of a sentence; and that the limitations of thought imposed by the genius of a language are violently broken down, and the mental powers are allowed full sway. Furthermore, the vocabulary is enriched by new words, and with these words come new ideas.

As examples to illustrate opposite conditions of language in these respects we may mention the Chinese and the English. The former has remained without crossings and without important intermixture for four thousand years; the latter is an extremely composite product of recent growth. The Chinese were a civilized and literary people when the ancestors of the English were wild savages; but the Chinese, uninfluenced by external influence and tied down to the limits of a singularly inexpressive language, sank into a state of mental torpidity, until now they have been left far behind by all the more mobile nations of the Western World.

Undoubtedly, up to a certain point a tongue can be cultivated within its own limits by enriching its vocabulary, separating and classifying its grammatical elements, fixing the meaning of current compounds, and by forming new ones according to the genius of its structure; but this will only carry it a limited distance, where it will lag and become inert unless vivified by an admixture of foreign elements both in words and forms.

4. RECORDED SPEECH.

A striking illustration of the influence which the genius of different languages has exerted on the destiny of nations and their position in the

scale of civilization has been the effect which the structure of idioms has had on the discovery and development of the art of writing. We need not emphasize what a powerful lever this art has been in lifting nations from savagery to civilization. It is not too much to say that civilization in its higher sense is impossible without it. History has no existence, and the brightest examples and noblest actions are soon lost in oblivion, except by the intervention of this "art preservative of arts." Yet such are the extreme difficulties which languages of the incorporating and isolating classes (see p. 52) present to the application of a phonetic alphabet, that it is the opinion of most linguists that had all tongues come under these classes the alphabet, as we understand it, could never have been devised.

Most nations, indeed, not on the very lowest planes of savagery, have devised some means of recording ideas for temporary and immediate ends. There have also been several independent discoveries in different parts of the world of what, using the term in a broad sense, we may call "writing," including in this term any method which conveys ideas by the sense of sight.

Various Systems of Writing.—All forms of writing come under one of two categories: (1) the thought is either conveyed directly, or (2) it is conveyed by evoking in the memory the sound of the spoken word expressing the thought. This leads to the fundamental distinction of "thought-writing" and "sound-writing."

A. *Thought-Writing.*—The oldest and simplest form of all writing is *a picture*. It is independent of language and is understood by all men. An Indian once called at a settler's house in Western Pennsylvania and asked for food. The settler drove him away with abuse. In a few minutes the Indian returned with a shingle on which he had rudely drawn in charcoal an Indian driving his tomahawk into the brain of a white man, the latter being distinguished by his clothes. The meaning of the missive was significant enough, and the son of the forest promptly obtained his repast.

Picture-Writing.—Such a method may be called "writing with pictures." True "picture-writing" is something much more complicated. In it there is no attempt to represent in line and color the transaction as it did or might take place, but the figures are symbols only of the ideas for which they stand. While the meaning of the picture is intelligible at once to any one who is acquainted with the circumstances to which it relates, this is not the case with the elements of picture-writing. They must be learned, and the connection of the symbol with the idea understood, before its meaning becomes obvious. To take a few examples from the American tribes, we may instance the sinuous horizontal line among the Mexicans, which meant water. It was intended to suggest the rippling surface of a stream or pond. The picture of an arrow-head meant "warrior;" of a particular headdress, "noble," because only the noble classes were permitted to wear it; with the Algonkins, a square stood for

the earth, because they believed it to be a vast square plain; a circle signified a divinity, apparently because it is complete in itself; a zigzag line was rain, because it is often accompanied by lightning, which has that form, etc. It will be seen from these few examples that the connection between the symbol and the idea is often so remote that it requires a close knowledge of the customs and beliefs of the nation in order to discover it (see *pl.* 53, *fig.* 9).

Picture-writing of this general character was in common use among most of the tribes of North America, and rose to considerable perfection among the nations of Mexico and Central America. It can also distinctly be traced in the oldest inscriptions of China and the valley of the Nile. Its separate figures are called "ideograms," and they have never been entirely superseded by any other system. During the Middle Ages they constituted the foundation of the heraldic art, and to this day the Arabic numerals, many marine signals, and various conventional signs used in commerce attest the recognized superiority of ideograms for certain purposes. Indeed, the numerous efforts made to invent a universal written language, one which, like the numerals, will be intelligible to all nations, all agree in contemplating a system of picture- or thought-writing as the ideally perfect one.

Quipus.—We must include in this form of writing the plan pursued by the ancient Peruvians in their *quipus*. These were series of knotted cords, varying in size, length, color, and thickness. Each of these peculiarities, as well as the forms of the knots, had a recognized signification, so that, the general sense of the whole being known, the details could be ascertained from the quipu itself. Not only were the accounts of the kingdom, the reports of the taxes, and the number of fighting-men thus kept with accuracy, but also the past history of the nation, the verses of songs and dramas, and the myths of their religion. Although nowhere else developed to such a system, a similar method of recording ideas was observed among some of the natives of Siberia; and the frequent habit with some among ourselves of tying a knot in the handkerchief to recall an idea or fact to mind is a familiar proof of how naturally it would suggest itself for the purpose (see *pl.* 53, *fig.* 12).

B. *Sound-Writing*.—The progression from thought- to sound-writing was a gradual one, and was greatly favored by the phonetic constitution of certain languages. It came about, in the first place, by the simple method of the rebus, still familiar as a puzzle among the games of children, and by the presence in a tongue of a number of homophonous words—*i. e.* those having the same or nearly the same sound, but with different meanings.

The difference between the rebus and picture-writing is that the former refers to the sound and the latter to the idea. Thus in picture-writing the concept "pencil" could be conveyed by the actual picture of that object, or symbolically by a V-shaped mark, representing its sharpened point; while by the rebus we should have the figure or symbol of a pen and that

of a sill, these two, in sound, forming pen-cil, although any other relation between a door- or window-sill and a pencil is as remote as possible.

This method was common in the heraldry of the Middle Ages, and was that most familiar to the Aztecs. The English family of Bolton carried as their arms the device of a crossbow shaft, a *bolt*, driven through a cask, a *tun*. The complex figure by which the name of the emperor Montezuma is represented in the Aztec codices is composed of a part of a trap, the head of an eagle, a lancet, and a band. In the Nahuatl language the words corresponding to these (their terminations omitted) are *mo-cauh-zo-ma*, which closely approximated the Nahuatl pronunciation of the name. The old hieroglyphic script of Egypt, which was just emerging from the condition of picture-writing, displays, especially in some of the cartouches recording proper names, a utilization of the same simple device.

Let us proceed a step forward, and suppose that such a method of writing the two *sounds* "pen-cil" had become general. Soon it would be noticed that the figure for the sound *pen* represented as many meanings as that sound had in the spoken language—in English not only *pen*, an instrument used for writing, but *pen*, a small enclosure for beasts, and, dialectically, a headland. All these would, for the sake of simplicity, be grouped under the same symbolic figure. Where such homophones were very numerous, as is the case in monosyllabic languages like the Chinese, in which the same syllable may have a score of totally diverse meanings, some sign would be added to designate which was intended. This is secured in the script of that tongue by what are called *determinatives*, accessory signs indicating to what class of objects the main sign refers.

Chinese and Japanese Systems.—The genius of the Mongolian tongues did not favor a further differentiation of their phonetic elements. Those idioms are largely monosyllabic and isolating, and they distinguish the different meanings of a monosyllable by pronouncing it with a rising, a falling, an intermediate, or a varied inflection of the voice not capable of reproduction in an alphabetic notation. Hence they never developed an alphabet, and do not find it convenient to employ any that have been proposed. They still content themselves with their unwieldy apparatus of nearly eighty thousand characters (including the combinations), though it requires a lifetime to learn the half of them.

When in the third century of our era the Japanese became acquainted with the Chinese system of writing, the influence upon it of their polysyllabic and more or less inflected language soon became evident. Although they retained a certain number of its ideograms, they analyzed most of its complications down to a limited number of syllables. As every syllable in Japanese must be "open"—that is, must begin with a consonant and end with a vowel—their number was limited, especially as the old Japanese had but ten consonants and five vowels. Omitting certain combinations which do not occur in the spoken language, it is found that the seventy-two syllabic signs which constitute the modern Japanese alphabet render the language in an entirely satisfactory manner.

Cuneiform.—Another form of syllabic writing, independently developed in all likelihood, was that preserved in the cuneiform inscriptions of the valley of Mesopotamia. The nation using it was known as the Accadian, but their relationship has not been ascertained. Some faint resemblances to the Finnish and allied tongues have been pronounced inconclusive by the best authorities. The cuneiform writing is extremely difficult from the absence of fixity in the sounds represented. Thus, a sign may mean either a closed or an open syllable containing the vowel (*i. e.* one ending with a consonant or a vowel), and it may convey quite different consonantal values. For example, the sign for the syllable *ku* stands also for the syllables *tus*, *pun*, and *dur*; the sign for *li* may also be pronounced *gip* and *him* (Friedrich Müller). With such obstacles as this to contend with, and the language and all its descendants being extinct, it is one of the marvels of modern science that the study of the cuneiform inscriptions has conquered so wide a field of positive results as has been the case.

Ancient Egyptian.—An analysis of speech to its ultimate phonetic elements—in other words, an approach toward an alphabet of letters—was first achieved in ancient Egypt, but, as we shall soon see, not there in its purity. The Egyptians began with picture-writing, and soon advanced to syllabic writing. But, unlike the Chinese, the spirit of their language did not lead them to stop there. The ancient Coptic was a language of inflection (see p. 52); it possessed a series of syllables which served to express the relations of ideas and the position of each idea with reference to others. It was also a language possessing many homophones. By the latter it offered the facility for extending the signification of the figure representing a sound. By the former certain sounds were recognized as belonging to the formal parts of the language, and soon became separated from the others. To quote the example offered by Prof. F. Müller, we may take the word for “brother,” in Coptic *son*: *son-t*, sister; *son-u*, brothers; *pa-son*, the brother; *ta-son-t*, the sisters; *son-a*, my brother; *son-k*, thy brother; *son-f*, his brother; *son-an*, our brother, etc. These suffixes and prefixes are repeated with every word as the sense demands, and the ancient scribe would soon be led to have separate figures not only for the syllables *pa*, *ta*, *an*, but for the single elements *t*, *u*, *a*, *k*, *f*, thus making a long stride toward a true alphabet. He would find that the same sign would answer for the sound *a* whether it was a prefix or a suffix, whether it was a whole word or a mere particle added or inserted.

To this extent the Egyptians had carried their system of writing at an early date, and its different steps are plainly perceptible in their inscriptions and manuscripts. The figure of a house, in Coptic *per*, stands for the syllable *per*; the figure of a ram, *ba*, for the syllable *ba*; and so on. This is indeed only a kind of syllabic picture-writing. But in the same inscription we may find true alphabetic writing, as when the figure or symbol of an owl, in Coptic *mulag*, stands for the letter *m*; that of the mouth, *ro*, for the letter *r*; of the lion, *laboi*, for the letter *l*; and the like.

Mexican or Aztec.—The ancient Mexicans had carried their system almost to the same extent. They not only had pictures expressing certain syllables, but some defining particular letters, and they combined them to spell words. Thus, the Aztec hieroglyph of the great plateau of Apan was the sinuous line for water, in Nahuatl *atl*, or, the termination dropped, simply *a*, and the figure of a banner, *panlli* or *pan*. Here the first represented a single letter, the latter a closed syllable.

But neither the Egyptians nor the Aztecs learned to avail themselves of the full advantages of the system which they had carried to this point with such inventive skill. Alongside of these true phonetic elements they retained many ideograms, and even actual pictures; they made use of "determinatives," as described in the Chinese system (see p. 91); and they did not confine one sign to one sound, and thus carry a fixed phonetic principle through all their system of writing. It was reserved for other groups of nations, under the stimulus of widely-different linguistic structure, to overcome these difficulties, and to give to the method of recording thought its final requirements to adapt it to the needs of civilization.

Early Semitic.—First of these groups in point of time were the Semitic nations, especially those of Babylonia and Phœnicia. There can be no reasonable doubt that their oldest scripts were learned from "the wisdom of the Egyptians" and were syllabic in nature. But as such they were by no means suited to the genius of the Semitic languages. These have certain traits in which they stand alone among all languages of men. They are built on a series of so-called "verbal roots," each of which consists of three consonantal sounds. The changes of meaning, which in most Aryan tongues are obtained by affixes, are in the Semitic dialect produced by altering the vowel inserted between these three consonants. To show this by an example, we may take the three consonants *k—t—b*. In the Semitic dialects this arrangement conveys the idea of "writing" or the act "to write," indefinitely. Placing the vowel *a* after each consonant, *ka ta ba*, it means, "he has written;" substituting an *u* for the first *a*—thus, *ku ta ba*—we have "it has been written;" lengthening the first *a* and altering the last to an *u*, *kā ta bu*, gives the present participle "writing;" and so on.

Evidently, to a nation with a language founded like this upon consonants, and whose vowels appeared or disappeared obediently to fixed laws, it was practically sufficient to express the consonantal sounds, but it was most important to accomplish this with the utmost precision. Hence, in modifying the Egyptian writing to suit their needs they rejected all its vowel elements, and confined their borrowing to just enough signs to express each definite consonant of their tongue. .

Such remained the character of the various Semitic alphabets for many generations. The books of the Old Testament, the inscription on the Moabite Stone, and inscriptions from Carthage and Phœnicia and other localities, were all written in consonants only and without marks for vowel-sounds. Custom, the sense of the passage, and tradition were supposed to be suffi-

cient to suggest the proper vowels to the mind. But in time these were found to be inadequate to the purpose. The rendering of the ancient books became obscured; even the correct pronunciation of the sacred name Jehovah fell into discussion among the doctors of the law; so that the employment of vowel-sounds became indispensable. They were not, however, placed in the word, on an equality with the consonants, but above or below them, as of secondary importance, and were not developments of an ancient form of writing, but an artificial device of scholars.

Græco-Italic.—Finally, the Græco-Italic nations, receiving the Semitic alphabet by the way of Phœnicia and the trading ports of Tyre and Sidon, supplied it at an earlier date than history records with the vowels which it lacked in order to render it a proper exponent of vocal expression. The vowel elements were placed, not as inferior, but as equal to the consonants, and inserted in the word in the order in which they are heard by the ear. This also was a necessary step forced upon them by the inflectional structure and polysyllabic character of their languages, thus illustrating again the profound influence which the diversity of linguistic structure has exerted on the development of the intellectual nature of man.

5. POETRY AND PROSE.

Poetry has been called "the native language of the human race." Certain it is that no nation has been discovered so brutish or so forlorn that it did not stimulate its emotions and cheer its hours of gloom with song of some kind. The Eskimos of the dark and frozen North are devoted lovers of singing and music. When one feels himself insulted by another, he does not seek some bloody revenge, but challenges him to a combat of song, where each sings satirical verses reflecting on the other, and they separate with their honor as well satisfied as two French editors who have met in a duel, the sword having drawn from one or the other some drops of blood.

Poetry appeals to the emotional, prose to the intellectual, nature; the former aims to stir the imagination, the latter to enrich the intellect. As one or the other is predominant in the spoken or written literature of a nation, its ambitions and actions are directed by cool calculation or by passion.

Poetry is intimately connected with the art of music. The chants of the humblest tribes are accompanied by some rude instruments which serve to beat time; and the latest analysis of the accents and feet of the lines of the ripest poets seems to demonstrate that they are in accord with the principles of musical notation (Sidney Lanier).

Rhyme in Poetry.—Rhyme does not constitute a general feature of poetry. In most languages it is unknown, and in some it would be impossible or nearly so. It was unfamiliar to and disregarded by the masters of verse in classical Greece and Rome. The quantity of the vowels in their stately idioms was sufficient to their ears, although the mediæval Latinists proved how readily that tongue lends itself to rhythmi-

cal effects. In modern times it has different principles in tongues of near relationship. The charming assonance of the Spanish cannot be imitated in other Romance dialects, still less in intractable English. The alliteration which is agreeable in Anglo-Saxon is unbearable in modern French and distasteful beyond very moderate limits in English.

These and like peculiarities depend upon the structure of languages, and react directly or indirectly on the life of nations. We must be content with giving them a passing reference to indicate how worthy they are of the attentive study of the ethnologist.

IV. TECHNOLOGY, OR THE ARTS.

Art in its widest sense may be defined as "Knowledge applied to the modification of the natural condition of objects." It has been styled "the main force of culture," and the endeavor has been made to classify all nations and to subdivide all history with reference to industrial art alone (Hittell). Though to concede to it such an all-powerful influence as this is to overlook the claims of the other elements in national life, the condition of the arts in any community does indeed serve as a convenient, obvious, and generally accurate measure of its advancement.

Classification.—For purposes of ethnological study the arts may be classified under three categories, with reference to the object they are intended to produce, and the needs, real or fancied, of the human mind which promoted their development. These are—

1. The Utilitarian Arts;
2. The Æsthetic Arts;
3. The Religious Arts.

This arrangement is probably also that of the order in which they arose, the demands of utility preceding those of decoration, and the religious inspirations of art arriving subsequent to both the others.

I. THE UTILITARIAN ARTS.

There could have been no time in the history of the race when man was ignorant of all the arts, nor has any nation been discovered which has not achieved very positive conquests in some of them. Indeed, several of them are familiar to many of the lower species, and are practised either in obedience to instinct or through knowledge to a remarkable degree. To take familiar examples: we have all witnessed the judgment and skill with which birds locate and construct their nests, and the ability of the beaver and the ant in this direction is proverbial. The hog wallows in the mire in order to cover himself with a coating of mud and thus defend himself against the heat and the insects, and the native of the Upper Amazon daubs himself with similar moist clay, his only clothing, for the same purpose.

Classification by Products.—We may arrange the different arts of utility in a scheme which will approximately be that of their historic origin and of their indispensability to man, as follows:

1. Tools and Utensils;
2. Weapons of War and the Chase;
3. Buildings;
4. Clothing;
5. Means of Transportation;
6. Weights and Measures;
7. Media of Exchange.

I. TOOLS AND UTENSILS.

The tool is not the end or aim of art, but its means; it is a prerequisite to further steps in the march of invention, and is devised to enable man to overcome the resistance of the material which he wishes to bring under his control and apply to the satisfaction of his wants. Early and rude tools serve many purposes. The sharpened flint of the savage cuts and shapes his arrow, carves and skins the animal which is slain, dresses its hide and scrapes its sinews into strings and its claws into ornaments, and takes the place of all the thousand implements in modern workshops. But here, as elsewhere in nature, the general law of progress, which is none other than the application of the principle of "differentiation and specialization," came soon into play, and tools were devised for limited and special purposes.

Early Stone Tools.—Such a sharpened flint or other hard stone was probably the first of tools fashioned by the pre-historic man, and to this day has not fallen out of use. As a "flesher" to flay cattle just such a stone implement as is excavated from the Ohio mounds is used now-a-days in some of the great meat-packing houses of the Western United States. Nothing better adapted to perform the work neatly and expeditiously has been devised.

The stone axes, chisels, and celts of the earlier strata of Europe and Asia approximate closely in form to those in use by the American Indians at the period of the discovery. This does not demand for its explanation that the one nation borrowed from the other, but that simply this was the most convenient and appropriate shape of the tool, and as such it suggested itself spontaneously everywhere to the primitive artisan. That these seemingly rude tools are more effective than we are apt to suppose was illustrated a few years ago by a Danish antiquary, who placed some of these stone implements from the Danish kitchen-middens in the hands of ordinary workmen, and with them, they constructed a well-finished and even picturesque log cabin.

The Manufacture of Stone Tools.—From some remains in very ancient strata in France the opinion has been advanced that the first method of making such stone tools was by placing large masses of flint in the fire, which would splinter its surface into sharp-edged spalls (Mortillet). But striking two stones together to bring one of them to a cutting edge is so simple a procedure that we may well suppose it was coeval with the most primitive manufacturing. Only a long time subsequently do we find speci-

mens the edges of which present neat parallel chippings and symmetrical forms. The arts of grinding, polishing, and boring came slowly into use, but were brought to a singular degree of perfection. They were carried out by the aid of sharp silicious sand—the boring by twirling a hollow reed, its point being supplied with this sand moistened with water. These simple devices, backed by an unlimited supply of patience, enabled the native artisan to turn out some pieces of work which have excited the surprise of civilized experts. Thus, a specimen of Aztec work in hard stone is preserved which represents a coiled snake, through the length of whose body, following each sinuosity, runs a clean, well-cut perforation.

The Hammer, etc.—For pounding and beating, a stone so shaped that it could conveniently be grasped in the hand was the implement offered by nature. Its power was greatly increased by fastening it with a wither or cord to the end of a stick or perforating it with a hole for the handle. This formed the hammer, and so clearly is its origin preserved in its name that the word *hammer*, in Old German *hamar*, is considered by some etymologists a derivative of the Sanskrit word for stone.

Knives, scrapers, chisels, hoes, adzes, drills, awls, gouges, and numerous other tools were deftly chipped or pecked from stone, and in Mexico long, keen-edged obsidian flakes were even employed as razors, and answered the purpose quite well. (See STONE AGE and illus. Vol. II.)

Metal Tools.—The discovery of *metals* was, however, that which gave the greatest impulse to the industrial arts, especially the compound of copper and tin known as bronze, and later iron and steel. The ancient nations fully appreciated what a wondrous boon these had been, and honored correspondingly the labor of the smith, assigning a position among the highest gods to the patron and founder of the art of working metals. Thus, among the Greeks Hephæstos, among the Latins Vulcan, and among the ancient Germans Thor, were represented with their hammers, and the myths related wonders of their skill at the anvil. The old Norsemen dreamed of no nobler employment for their gods than the creative art-work of the smithery. Thus their ancient song, the “Voluspa,” tells how

“The Aesar come together	on the Ida field;
Houses and havings	high they heap up.
Unearthing iron,	beating the bronze,
Forge they the forceps	and the tough tools.”

The earliest of the metals employed for tools was generally copper. It is abundant, and often found of such purity that it can be hammered into shape without heating. Of such beaten native copper are the knives, chisels, and scrapers exhumed in quantities from the mounds of the Ohio and Mississippi Valleys. For many purposes it is too soft, but the discovery was early made, both in the Old and New Worlds, that a small amount of tin, from 2 to 10 per cent., adds greatly to its hardness, forming what is known as *bronze*. Although tin is a scarce metal, there were a few localities—notably Cornwall in England and the province of Tlatchco

in Mexico—where it was abundant, and from these sources it was widely dispersed by commerce, so that bronze was common throughout Central and Southern Europe and the Aztec dominions of Mexico at the dawn of history. (See BRONZE AGE and illus. Vol. II.)

Iron, which has been said to have “conquered the world,” although so abundant in many parts of America, had never become known to its inhabitants for practical uses; whereas it was perfectly familiar and in large use among the Egyptian and Semitic nations in the remotest ages of which we have any record. From its names in both these linguistic stocks, it appears to have been brought originally from Persia (Schrader).

Bone, Horn, etc.—Other materials for tools were bone and horn, shells and wood. All these date back to the highest antiquity, and the skill with which they were used would surprise the modern mind. So accustomed are we to numerous and carefully adapted tools that we scarcely understand how much can be accomplished with those of the rudest pattern. In a previous paragraph (p. 62) it has been stated that the Cave men of ancient Europe captured the most ferocious Carnivora in pitfalls. They doubtless excavated such in the simple manner observed among the Indians of Pennsylvania by a traveller in the last century. These selected long poles and sharpened the ends in a fire. They then plunged them into the soil, and with their hands scooped out the earth thus loosened. Repeating this procedure, they had soon excavated a deep pit.

2. WEAPONS.

These may be classed as they are designed for *offensive* and *defensive* purposes. Of *offensive* weapons, the oldest are doubtless the stone and the club, the former for hurling from a distance, the latter for the hand-to-hand conflict in which the heroes of yore took great delight.

The Club.—The club—at first the rough limb of a tree, as that knotty cudgel of wild olive-wood which, according to Homer, was the mighty weapon of Herakles—became later more of the nature of a hammer, like those “rough-headed stones held in iron swathes” which O’Curry describes as forming the war-clubs of the ancient Celts. They were in common use far down in the Middle Ages, and Froissart describes a doughty man-at-arms in Brittany who wielded one weighing forty pounds.

The Bow-and-Arrow.—The bow-and-arrow, though demanding considerable ingenuity to devise, was widely known in both continents and was invented far back in the Stone Age. The “darts” or “arrow-heads” clipped by the hunters and warriors of times not long Post-glacial are exhumed in abundance in both Europe and America (see above, p. 26). Yet the cultivated people of Peru, warlike as they were, made little or no use of the bow. But this may not have been through ignorance. The early Roman legionaries rejected the bow, and relied exclusively on the sling, the javelin, and the sword.

In the Middle Ages the bow developed into the powerful crossbow with its short bolt. But to this day the simple original form is in frequent use

among the natives of the American continent and some parts of Asia and Africa.

The Spear.—The spear was at first merely a sharpened stick hurled point foremost against the foe. To render it more effective, a tip of horn, bone, or chipped flint was added. With a short shaft it formed the javelin, a favorite missile in the classic days of Greece and Rome; and with a longer shaft, the lance, which the Northmen warriors used for both hurling and thrusting. Both varieties recur in America, the Iroquois and Algonkins knowing only the short spear, usually with stone tip and locust-wood shaft, while the natives of Guatemala fought with very long lances of straight reeds with copper and stone tips. The cavalry of some European armies—notably the Cossacks—still prefer the lance for their encounters.

The Sword.—The sword gradually grew from the stone knife, as the names it bears testify. The “Saxons” means the “swordsmen,” and *seax*, the name of the sword in Anglo-Saxon, is akin to the Latin *saxum*, stone. Like the dagger, like the short sword of the Roman soldier, and that still in use for duelling, it was intended to thrust with. A weapon swung like the modern broadsword was also in early and extended use. In Mexico the handle and blade were of wood, the latter edged with keen chips of obsidian, while in the Pacific islands the saw-like teeth of the shark offered an equally appropriate material to render the weapon of murderous efficacy.

Firearms.—The discovery of gunpowder revolutionized the methods of offensive warfare, and with it was introduced a variety of new weapons far surpassing those mentioned above, which gradually have been falling into desuetude.

Defensive weapons have always kept pace with those for offence, and in some eras have surpassed them. Their beginning is seen in the straight stick with which the naked Australian wards off the spears of his assailants. The shield of leather or of wood is referred to in the earliest records of the Old and New Worlds. The helmet and cuirass, or breast-plate, were protections familiar to nations of a riper cultivation. In the armies of ancient Asia they were of leather or metal; in those of Central America, of quilted cotton, the latter so thick and cumbrous that they impeded flight and gave the Spaniards easy victories.

Armor.—From these beginnings were developed the plate and chain armor of the Middle Ages with its graceful outlines and artistic flutings. It reached perfection in the fifteenth century, at which date the defensive weapons had so far outstripped those of offence that it is matter of history that in Italy two armies fought from nine o'clock in the morning until four in the afternoon not only without loss of life, but without a wounded man on either side! The introduction of firearms soon put a stop to this agreeable but indecisive mode of war. So potent have missiles now become that the reverse condition has been reached and personal defensive armor of all kinds has been thrown aside as useless. What is retained in

some European armies—the helmet and the breastplate of the German cuirassiers, for example—is for ornament only, a mere reminiscence of the past.

3. BUILDINGS.

The structures which man erects are intended to subserve one of two purposes: they are either *shelters* from the weather or they are *defences* against his foes; the one or the other character prevailing to such an extent as to decide on the form, material, and location adopted.

Primitive Shelters.—We may suppose there was a period when the creature called man did, as the poets would have us believe, dwell in caves and hollow trees. But communities have never been found of whom this was literally true, nor does the analogy of nature require it. Man, like the beaver, the squirrel, and the birds, belongs to a home-building species, and probably always builded. The savages who peopled Buenos Ayres when the great ice-sheet had scarcely disappeared from the surface of its vast plains, and who were coeval with the fossil horse, collected the thick armor-plates of glyptodons, and with them constructed shelters against the storms (Florentino Ameghino). The naked Botocudos of the Brazilian forest and the "blackmen" of Australia know how to bend saplings together and thatch them with leaves as a protection against the tropical sun and showers (see *pl.* 5, *fig.* 4; comp. *pl.* 45, *fig.* 6).

It is instructive to note how strongly nations differ in this art. Some are persistent builders, utilizing whatever material they have at hand, while others seem unable to avail themselves of the most obvious hints of nature. This is seen within the limits of the same race. Thus, the ancient Peruvians, of different tongues but of similar characteristics, constructed edifices of wood and stone, of bricks, concrete, and thatch with equal facility as one or the other material was abundant; while the tribes east of the Mississippi, several of them of signal intelligence, never in any instance rose to the level of laying stones to form a wall. In ancient India the Dravidian tribes offered examples of the same contrast of dispositions. In the Arctic zone the Eskimo with admirable ingenuity builds his dome-shaped winter-house of blocks of snow, and reserves his skin tent for summer; but the Lapp and Samoied have for ages been exposed to a similar climate and never developed this skill.

A skeleton of poles covered with skins, leaves, or mats was in most climates the first artificial shelter, and long survived in the "osier huts" of the English peasantry. As they were of such perishable material, they left no traces. Nomadic tribes still cling to the tent of skin or woven stuff, which they can readily fold and carry to their next camping-ground. Agricultural occupations demanded more permanent residences. They were at first usually of wood. Where this was scarce, clay was kneaded and baked in the sun to form adobes, or sun-dried bricks, which could be laid firmly in the wall by a mortar of the wet clay itself. All the so-called brick building in ancient America was of this character. Hardening the bricks by "kiln-drying" was unknown.

Stone Walls without Mortar.—Stone walls were at first “dry walls,” the separate pieces laid together as they would fit most securely. Such were the “Cyclopean” or Pelasgic walls of Greece, the constructors of which are lost in the night of time; and such were the walls of those equally obscure and far more wonderful remains on Lake Titicaca in Peru. Nowhere else was this system carried to such perfection as in the last-mentioned country. Many of the “Inca walls” remain as marvels to this day. The stones, often of gigantic size, are so accurately jointed and adapted one to the other, without the use of any cement, that not even a knife-blade can be inserted between them; and this after the lapse of four or five centuries since they were laid in the wall (see *pl.* 52, *figs.* 2, 8).

Stone Walls with Mortar.—The mingling of lime—at first obtained from burnt shells—with sand to form *mortar* led to a further development of building. It was an independent discovery in different localities. In America its northern geographical limit is marked by the “cliff-houses” of the cañons of the Colorado. These birdnest-like dwellings, perched on the sides of lofty precipices, are of stones laid in a gray and exceedingly tenacious mortar. In some specimens from ancient Egypt and Rome the stone or brick itself will give way before the cement in which it is laid.

Elements of Architecture.—Of the elements of architecture, the *pillar* and the *arch* are the most noteworthy. The pillar was doubtless suggested by the trunk of the tree, which supports its branching foliage, and the “roof-tree” was the central object in the halls of our Indo-European ancestors, against which the roof was laid from the walls. Both square and circular pillars, sometimes with developed capitals, were common in Central American architecture, and occurred occasionally in that of Peru, more rarely in Mexico. In ancient Greece, as is well known, the pillar attracted the most earnest attention of builders, and upon its different styles was founded their scheme of the “orders of architecture.”

The *arch* was doubtless suggested by the lodge-poles, leaned one against the other and touching at the top. This forms the angular or pointed arch, and in its likeness the most primitive stone arches are formed by laying stones one on another, each slightly overlapping or “corbelling inward,” so that ultimately the opposite walls meet at the top. This is the plan of the Eskimo snow-huts, of the “treasuries” of Mycenæ and Tiryns, and probably of all the so-called arches of Mexico, Central America, and Peru. The true arch, “a curved structure supported by its own curve,” was probably not known to any nation of the New World, nor to any extent to the Egyptians, but was a discovery of the ancient Assyrians, from whom it was learned by the Etruscans, and through them passed to the Romans. Its modification by the Lombards into the Gothic arch with its flying buttress and rich decorations led to the construction of the most impressive monuments of man's handiwork.

Influence of Domestic Architecture.—Building for shelter—by which term we mean house-architecture—has an ethnological importance far

beyond its application to elucidate the history of culture. It stands in intimate relationship to the institutions, usages, and customs of a people, and is powerfully instrumental in deciding upon their status in the scheme of civilization. This has been ably demonstrated by an eminent American ethnologist, Mr. Lewis H. Morgan, who has set forth his arguments in a work published by the Government entitled *Houses and House-Life of the American Aborigines*, but intended in its scope to be explicative of the domestic relations of ancient society in general. His view is that the primitive family—using this term to include as many persons of both sexes as could live together in friendship—constructed and occupied one large dwelling, in which they resided with a community of goods and often with a promiscuity of sexes. These are called “communal” or “joint-tenant” houses. Good examples of them are offered by the long cabins, sometimes three hundred feet long by twenty wide, of the Indians of New York (Iroquois and Algonkins), of Vancouver Island (the Haidahs), and of the Babanus (the Arawacks); by the huge adobe structures of the Pueblo Indians of New Mexico—sometimes large enough to accommodate five thousand souls; and by the so-called “palace” of the king of Tezcuco, more than twelve hundred feet square. Mr. Morgan even carries his theory so far as to explain the religious structures of Central America as communal houses.

Although it is probable that in some directions his explanations will not be justified by future research, his suggestions of the relations of domestic architecture to social life are most deserving the attention of the student of early man; for upon these relations depend the notions of property, the system of relationship, the position of the sexes, and the form of government.

Buildings for Defence.—The methods of building for defence began with the rude barricade of branches and logs or of loose earth and stones which the savage drags or throws up for a protection for his house against wild beasts and human foes. Such is the humble origin which is marked on our word *town*, which meant originally any place enclosed with a hedge or branches; and when we speak of *political* bodies, we employ a word which means a community protected by a wall of thrown-up earth (Schrader).

Primitive Forts.—The simple forts of the tribes of the eastern coast of North America, as described by early travellers, were circular embankments of earth a few feet in height, upon which was erected a palisade of upright logs woven together with withes and branches (Ettwein). This description answers also for the “rings” of the Tartar hordes who invaded Europe in the fifth and sixth centuries; and the extensive embankments of the Ohio Valley, containing millions of cubic feet of earth and constructed by some long-extinct nation, are finer examples of the same character. They bespeak for erection the labor of a large body of workmen directed to the carrying out of a matured plan of defence.

Walls of Defence.—In later and more cultivated ages the primitive mound, earth embankment, and external ditch were replaced by the

city-wall of cut stone, with its moat, its bastions, and its massive towers and gates. Sometimes such works were of colossal dimensions, as the wall which Adrian built to keep at bay the Picts and Scots, or that greatest of all which for centuries protected the northern frontier of China against the hordes of Turanian nomads.

At the period of the introduction of gunpowder defensive architecture was so perfected that many a town and castle could bid defiance to every means of capture save famine. The introduction and improvement of cannon and the art of springing mines, thus shattering the thickest walls, changed all that. Now-a-days the great mediæval cities have razed their walls and filled their moats; even the massive fortresses of the last century are perceived to be of no avail against modern ordnance; and, by a curious reversion, the most skilled military engineers have gone back to the low earth embankments of the primitive savage as the surest defences in war.

4. CLOTHING.

Unlike all the man-like mammals, man himself is almost devoid of any protection in the nature of hair or fur on his body. To explain this has been a puzzle to evolutionist philosophers, and it must be acknowledged that they have not offered any satisfactory solution. Whatever its cause, one of its consequences undoubtedly was that very early in his history he sought for some means to "hide his nakedness." This, and not protection against the cold, was probably what prompted him first to devise apparel. By custom man becomes exceedingly indifferent to changes in temperature. Some of the Indian tribes of Canada went nearly naked throughout the year. In the damp, cold climate of Southern Patagonia the natives care little for wraps of any kind. Of course in warmer latitudes they are altogether superfluous. As related in the earliest Hebrew records, it was the *sense of modesty* that first prompted human beings to frame for themselves garments. Modesty, however, is by no means the same all the world over: those portions of the body which the people of one nation consider the most indelicate to display are by others shown without a thought of impropriety.

Variations in the Feelings of Modesty.—Curious contrasts exist between nations in this respect. The women of parts of Arabia and Egypt do not hesitate to bathe in public places if only their faces are veiled; while in Europe that is the only portion of her person which a lady can display uncovered. The Hottentot women often appear naked except the head, which on no account would they uncover; while to remove the hat is the ordinary salutation of a European gentleman. The natives of the Philippine and Navigator Islands think it most indecorous to allow the navel to be visible, but they attach no importance to concealing any other part of the person. When Captain Speke was approaching the kingdom of Uganda in Central Africa his guide doubted whether the white traveller would be admitted to His Majesty's presence on account of the indecent attire of pantaloons, the court ceremonial being absolute that every male

must appear, on pain of death, in flowing garments, concealing his legs, although the female attendants of the king went naked. To speak of or to look at the small foot of a Chinese lady is a gross breach of decorum; and in some Bedouin tribes the most insulting request to a woman would be that she should remove the cap from the back part of her head (Peschel).

These and other examples illustrate how artificial are the directions taken by the sense of modesty; but they also prove its wide appearance as a part of human nature. Few if any tribes have been found wholly devoid of it, and it generally is directed to the concealment of those portions of the frame whose functions are disagreeable to others.

Materials of Clothing.—The first material of clothing may have been the traditional fig or other leaves, but the skins of animals must rank almost coeval with them. Far back in the Stone Age we come across punches and awls evidently intended for perforating hides to allow the insertion of strings, thus fitting them into garments. Even in the reindeer caves of France bone needles are found with an eye in their head for carrying the thread. This was a long step in advance of the punch or awl, though the latter still holds its own in the hand-sewing of the material for which it was first invented—skins or leather. Bronze needles of excellent workmanship turn up amid the remains of the Swiss Lake-dwellers. They, and with them the art of sewing, remained practically the same from pre-historic times to our own day, when the inventive genius of Howe took the next stride in the art of clothing by placing the eye in the point instead of in the head of the needle, and thus rendered possible the completion of the sewing-machine.

No long time could have been required for the early tribes to note that their aprons of leaves or of bark depended for their strength on the fibres they contained. These could be separately drawn out into strings, and a bundle of such fastened to the belt still constitutes the gala dress of many an African belle. The example of twisting the fibres to gain strength, and of plaiting them to secure breadth, is offered by natural growths, and probably suggested the simplest forms of *spinning* and *weaving*.

Felting is also to some extent a natural process, dependent on the close curl and split ends of the fibres of wool. It is in a measure simulated in the vegetable kingdom by the readiness with which the fibrous leaves of some plants—notably the aloe and the papyrus—can when macerated be beaten into a continuous sheet. Such observations led to the search for, and cultivation of, fibrous plants, as cotton, flax, hemp, and jute, and the domestication and breeding of sheep and goats; as well as to steady improvements in the machinery for curing, spinning, and weaving their products.

Clothing as a Decoration.—A powerful lever was added when clothing came to be regarded not merely as a satisfaction to the sense of modesty and a means of protection, but as a decoration and a mark of distinction. This, more than either of the other two motives, has conceded it the enormous influence it has exerted on the development of mankind. Well

might the philosophic author of *Sartor Resartus*, when he set about writing a summary of the nature of man, name it "a treatise on clothes"! The pomp and majesty of kings, the gallantry of warriors and the charms of fair ladies, the insignia of rank and the ostentation of wealth, have ever sought their chief expression in modes of apparel. Its gaudy colors have been brought from the deep sea and the far-off forests; its designs have tasked the genius of artists; its texture has been refined to the delicacy of the spider's web; and its ever-varying form and draping have been the constant thought of tirewomen. Intimately associated with national life and history, the apparel as oft betrays the ethnic character and descent as it does those of the individual.

5. MEANS OF TRANSPORTATION.

Man surpasses all other land animals in the perfection of his natural means of locomotion. Though many surpass him for short distances in speed, they are sure to yield in endurance. He can walk down the deer and wear out the horse, as has been repeatedly shown in long overland journeys. He is far more indifferent than any other animal to changes in climate and elevation. The traveller in crossing the Andes must change horses several times, those of a lower altitude not being able to bear the rarefied air of the upper levels. But the Alpine tourist for mere amusement scrambles to a far greater height than even the chamois ventures.

With practice, man becomes scarcely less at home on the water. Some of the South Sea islanders have been known to spend a day and a half in the ocean, floating and swimming by turns. This natural facility he learned, while still in the rudiments of culture, greatly to increase. Bladders and light woods aided him in swimming; to prevent his limbs sinking in the soft deep snow he invented the snowshoe, or, as in Norway, the long straight runners they call *ski*; while the shifting sands of the Landes of France suggested the use of stilts, which, for some unknown reason, were also in vogue with the Mayas of Yucatan and are portrayed in their manuscripts.

The native habitat of man was along the shores and watercourses. The Darwinians, indeed, will have it that he is the descendant of some amphibious, seal-like ancestor. At any rate, the streams and lakes furnished him both food and drink, and thus came to be the highways of his migration.

Water Transportation.—Very early in his life man must have essayed some plans of navigation. Beginning, like the Australian savage of to-day, with a simple log, on which he was seated astride and which he propelled with his hands, the next step would be to tie two or more logs together and thus form the *raft*. This elementary craft is still in use in many parts of the world. The *balsas* of the Peruvian coast are formed of five or six logs lashed together with withes. They are floored with bamboos or split palms, upon which huts are built, and there the family

live all the year round. In the interior of that country, on the cold and lofty plateau around Lake Titicaca, there are no trees suitable for the balsas; so, instead of logs, the natives tie the rushes which grow along the shores into long bundles, lash them together, and thus have floats sometimes large enough to accommodate fifty or sixty persons. Indeed, many of the ancient inhabitants lived altogether on these reed-rafts, moving them from place to place on the lake as their fancy dictated (Herrera). The maritime Feejeeans and other tribes who were more desirous to accomplish their journeys than to live on their crafts, discovered that two logs connected by a raised platform could be impelled through the water more swiftly than a solid raft of the same breadth, and thus laid the foundation for the invention of the catamaran and the outrigger.

The *canoe* or "dug-out" is merely the log hollowed out. The observation that a concave and water-tight object of any material will float on water could not escape the least acute savage. Hence the canoe may be supposed to have been invented independently in many localities. Its original construction was simple: a trunk, felled by the wind, was burned across in two places; small fires were built upon it; the charred wood scraped off with stones; and the process repeated until the excavation was sufficient. The perfection of canoe-building was reached by the natives of the north-west coast of America, a region abounding in magnificent timber. Some of their canoes, hewn out of a single trunk, measure over fifty feet in length and will carry a hundred persons.

Where trees were scarce or where other materials offered themselves, the canoe was of some water-tight substance stretched over a frame. Birch bark is admirably suited to the purpose, and the light and graceful birch canoe of the Iroquois and Algonkins is an ancient proof of their skill. The Eskimo's *kayak* is made of the skins of marine animals stretched over a frame of whalebone, and in it he can with safety ride out the most violent storm of the Arctic seas. Much more rude is the *pelota* of the Patagonian—a skin of a guanaco stretched on a square wooden frame. On it he places his portable property, and pushes it before him as he swims the streams. The Welsh *coracle* was also a leathern boat, in which the adventurous fisherman fared boldly out to sea.

Ships.—The construction of vessels of split or sawed planks fastened to ribs was unknown to the natives of the New World, but is portrayed on the most ancient paintings of the Egyptian artists. The Egyptians, however, were not sailors. Their commerce was carried on by the sturdy Phœnicians, the mariners of Tyre and Sidon, who founded colonies far west to the Pillars of Hercules and beyond. These taught the Greeks and Etruscans the art of shipbuilding, and converted the "barren brine," as the sea was called by the Homeric poets, into the *pontos*, the pathway (as the word literally means), of nations.

We need not follow the development of marine architecture from the beginning of history till to-day, when, singularly enough, one of the least buoyant of all substances, iron, is the chosen material for con-

structing the gigantic craft which ply to and fro on the ocean-ferries of the world. But it will be profitable to glance at the means of propulsion employed.

Means of Propulsion.—The earliest was the *pole*, with which the raft was pushed or very slowly impelled by dipping it in the water, as is to this day the means employed by the unprogressive natives of Lake Titicaca. By expanding one or both ends of it, we have the single- or double-bladed *paddle*, the former that most common in savage conditions, though the latter is used by the Eskimo and some others.

Oars and sails were late inventions. The oar, moving on a fulcrum, more noisy than the paddle (which in skilful hands is quite noiseless), and requiring the oarsman to look in the opposite direction from that in which he is going, is unsuited to the requirements of savage life, and is an outgrowth of a comparatively cultivated condition. It was nowhere seen in America, though it must have been known to the Aryan family before its dispersion, for the word *oar* is common to all branches of it.

The word *sail*, on the other hand, is not a joint possession of Aryan tongues, and therefore it is believed that the invention of this means of propulsion was unknown to their common ancestors; yet in America it was familiar to several nations. When Pizarro was approaching the coast of Peru he encountered one of those *balsas* we have described, with a large sail set and bowing before the wind. Nor is this the only instance of the kind, as the historian Prescott thought it was. The sea-loving Caribs of the coast of South America impelled their canoes with sails of cotton cloth; and, in the Maya paintings on the walls of Chichen Itza in Yucatan, barks under sail are faithfully delineated.

The introduction of sails led to the construction of masts and spars, ropes and tackle, and the multifarious odds and ends of the shipwright so mysterious to the landsman.

With the introduction of the mariner's compass from the far East in the twelfth century transportation by water achieved an independence of the shore and the darkness, and the way was open for those wonderful discoveries which have led a modern writer to declare that the deeds of a single navigator have had more important consequences for human society than the creations of any artist, the victories of any conqueror, or the doctrines of any founder of a religion (Peschel). When the application of *steam* further liberated the navigator from dependence on wind or current, the complete mastery of man over the watery element was nearly attained.

Land Transportation.—Turning now to land transportation, man's first recourse was to his own back and limbs. Some nations, especially the Africans, carry their packs on their heads, even heavy, filled water-jars being poised with extreme nicety. The Mongolians load their backs and shoulders. The natives of Mexico and Central America largely made use of a bag or net suspended by a band, the *mecapal*, across the forehead.

Beasts of Burden and Draught.—Except *dogs* in the extreme northern portion of America, the natives knew no beast of burden or draught animal. This was for the simple reason that there was none suited for these purposes. The *horse*, the *ass*, the *ox*, the *camel*, the *dromedary*, and the *elephant*, all subjected to man's control and submissive to his dictates from beyond the beginnings of history in the Old World, were unknown in the fauna of America even by any near species. The part they acted in unfolding the drama of civilization on the great eastern continents was of the first importance. In war and peace, through the desert and the steppe, by caravans and trading-trains or by mounted squadrons and moving armies, they brought about that close and constant commingling of nations and languages on which, as we have before shown, the advance of civilization depends. If one reason more than another can be assigned why the American race was, as has been stated by some writers, three thousand years behind that of Asia, it is that it lacked the services of beasts of burden and draught. This is pictured in the languages of Europe, where *chevalier*, *caballero*, "horseman," is a title of honor and nobility, and *boyard*—literally the "oxherd"—is equivalent to that of prince.

Although the horse was known to the Indo-European family before its separation, it was probably not applied to domestic uses at that early date. Riding, indeed, was so late an accomplishment to its members that it was unfamiliar to the poets of the Rig Veda or the Homeric songs. The heroes of the Trojan war are not cavalrymen, but go forth to the contest in chariots of war.

Leading authorities now are of opinion that at least eight varieties of the wild horse were domesticated, two in Asia and six in Europe (Piètremont). One of the Asiatic breeds was introduced into Egypt by the Shepherd Kings (about 2200 B. C.), and from this all the African horses descended. They were soon highly prized, especially for the increased efficiency they gave the armies. Plutarch relates that the god Horus was once asked by his father Osiris, "Which is the most useful of animals?" His reply was, "The horse, because it enables a man to overtake and slay his enemy." Both chariots and horsemen are frequently represented on Egyptian monuments later than the middle dynasties.

Wheeled Vehicles.—The *ox-cart* and *war-chariot*, very early inventions, were familiar to the Assyrians, Semites, and early Greeks. The native Britons encountered Julius Cæsar in their *essedæ*, two-wheeled war-chariots drawn by fiery steeds. This proves that the application of the mechanical principle of the wheel had at that time become the property of many nations, and with this arose the necessity of bridges and of roads much broader, more level, and kept in better condition than the trail which would suffice for the pedestrian or equestrian.

The first wheels were a mere narrow section of the trunk of a tree, the axle turning with them; and it is one of several curious examples of reversion that the most modern invention for car-wheels, both in plan and

material, goes back to this antique pattern, for it joins wheel to axle, and the wheel is of "paper pulp," principally consisting of wood-fibre.

It is needless to specify in how many directions the requirements of transportation have developed the industrial arts as well as the abstract sciences. They have demanded the excavation of canals and docks, and the construction of quays, harbors, roads, and bridges. They have been the practical purposes which have originated the sciences of geography and astronomy, and they have led nations to unite in friendly legislation for the furtherance of common interests and for banishing banditti from the highways and pirates from the ocean.

Aërial Navigation.—The water and the land thus brought under peaceful subjection to man, the mountains perforated with his tunnels, and the seas united by his artificial water-ways, the air alone has resisted his repeated endeavors to render it the medium of his motions. From the day that Dædalus fastened wings to his son Icarus and bade him fly across the Cretan Sea, into which he fell and was drowned, inventor after inventor has spent his life on the problem of aërial navigation with no greater success, and often with like unhappy result. The daily spectacle of the flying birds, however, proves that the problem is no unsolvable one, and we may confidently look to the time foretold by the poet when the "pilots of the purple twilight" shall "drop down with costly bales."

6. WEIGHTS AND MEASURES.

The extent of a nation's conquest over the forces of nature is accurately indicated by its system of weights and measures. On these depend the perfection of its tools and the range of its industrial activities. Art in all its branches is inseparably connected with the ideas of equality and proportion.

Conceptions of Number.—At the base of these ideas are the conceptions of *number*. Nations, like individuals, vary remarkably in their arithmetical powers. It would seem impossible that there should be a language without any numerals, yet such is the Chiquito of Eastern Bolivia. Counting is quite unknown to the members of the tribe. The word which is the nearest to *one* means "itself" or "the same;" *two* or more is indicated by "much" or "many." The tribes on the grassy plains of Northern Buenos Ayres, called El Gran Chaco, are scarcely better provided in this respect. A recent traveller (Pelleschi) relates that an influential chief was unable to count the number of his own fingers. It would be impossible for tribes thus deficient to make any important advances in the constructive arts.

Yet there was a time when none of the human race surpassed them in this respect. This is proved by the systems of numeration and the names of the units in many languages. They are usually of the quinary character; that is, they count by fives, the second and later series of fives being modifications of the first. This indicates that they were first represented to the mind by counting the fingers of the hand. Sometimes the

word for five means also "hand," or was derived from it. The two hands furnished ten digits, and from this arose the decimal system—not at all a necessary one, and according to some arithmeticians not so convenient as either that by eights or that by twelves (octals or duodecimals). Adding the number of the fingers and toes together gives us twenty, and the significant name of this number in the Maya dialects of Central America is *hun vinak*, "one man." The Mayas and many other tribes chose this number as the unit for their higher calculations, relics of which custom are preserved in our own habit of reckoning by scores or twenties, and in the French numeration between sixty and a hundred—*soixante-dix-neuf*, *quatre-vingt*, etc.

The Multiplication Table.—Both in Aztec and Maya writing the higher units, multiples of twenty, were indicated by special signs, and both these nations had invented a multiplication table not more cumbrous apparently than that of the ancient Romans with their alphabetic letters in place of numerals. The convenient notation of the Arabic numerals, so called (though probably an East Indian invention), was rendered possible by the introduction of the zero or naught sign, "0," an invention which, as Dr. Tylor forcibly remarks, "was practically one of the greatest moves ever made in science." Simple as the multiplication table appears to us, it was brought about only by the intense application of the brightest minds of many nations through a long series of centuries. So inapt is the human intellect to frame clear ideas of number that there is perhaps not a single dialect of the widespread Malayan family which has a word for *one*. The expression for it signifies "the same," or something of that kind, and must be qualified with another word to convey the idea of mathematical unity (F. Müller).

Classification.—On these numerical conceptions are founded all those comparisons for practical purposes which we call denominations of weights and measures. We may classify as follows those which have the greatest ethnologic importance: Measures of Time; Measures of Space; Measures of Direction; Measures of Gravity.

Measures of Time.—The alternations of light and darkness resulting from the revolutions of the earth bring about the division of time which most strongly impresses the human mind. Nations, however, reckon it differently. After the manner of the ancient Semites, the book of Genesis speaks of "the evening and the morning" as making up the day. The Indians of the Eastern United States were wont to count by nights, not by days; those of Central America, by "dawns;" the astronomer begins his day at midnight, the sailor at high noon; the New Englander at sunset; elsewhere the people in the United States at sunrise.

Seasons.—In almost all climates the year is marked by the recurrence of contrasting meteorological conditions defining it as measure of time. These are the "seasons," and by one of them, rather than by any more abstract term, the year is usually spoken of in primitive dialects. Thus with the northern tribes of America the years were counted by winters,

whereas in the poetic phraseology of our comfortable life they are spoken of as summers. The ancient Aryans counted also by winters, and had no word for year (Pictet). The divisions of the seasons increased in number as the tribes dwelt nearer the equator and the contrast was less marked between the extremes. Instead of merely winter and summer, there were winter, spring, summer, late summer, and autumn (Grimm). In tracing their migrations this has profitably been called in to ascertain the oldest centre of a group of languages.

Months and Weeks.—Another subdivision of the year, that into *months* by the waxing and waning of the moon, though not universal is nearly so. Of course, it lacks much of being accurate, and our months—*mooneths*—are far from corresponding to the changes of the earth's satellite. The subdivision of the month into *weeks* of seven days no doubt was a quadripartite division of the lunar month. It extended over the Old World from the Babylonian and Assyrian monarchies, and in the New was familiar to the Cherokees, Peruvians, and perhaps some other nations. The usual American week was of thirteen days, and this too was probably derived from the lunar month by dividing it as nearly as practicable into halves.

Calendars.—On the divisions of time above referred to were constructed the *calendars* by which nations sought to fix in time the events of their history and to frame a chronology. One of intricate construction, but of considerable accuracy for short periods, was the common property of several Mexican and Central American nations. Neither its origin nor the details of the principles on which it was applied have as yet been fully explained by archæologists. Our own calendar is the net result of a series of approximations extending over several thousand years, and, though sufficiently accurate for practical purposes, is not precisely correct.

Sundials, etc.—The measurement of time within the space of the day has called forth some of the most admirable results of human ingenuity. The observation that the position of the shadows indicates how far the day has advanced must have been a primitive one, and have suggested the earliest horologe or hour-measurer, giving rise to the *sundial*. Its origin we do not know, but from the reference to "the degrees on the dial of Ahaz" in 2 Kings xx. 11, it must have been familiar to the Hebrews in their early days. It is highly probable that the so-called "sun-pillars" and "sun-circles," recurring with singular similarity of structure among the Druidic remains of Western Europe, in Northern Asia, in Peru, and elsewhere, were erected as a sort of standard measure of the motions of the sun both in his daily and yearly journeys.

Clepsydra and Sand-Glass.—An improvement on the dial, as allowing the measurement of shorter periods of time, was the *clepsydra* or *water-clock*, in which the regulated dropping of water from a vase checked off the flight of time. The *sand-glass*, acting on the same principle, was not introduced until about the beginning of the Christian era. The burning of candles was a device of King Alfred for the same purpose; but this and all the other expedients mentioned have given way in modern times to

the action of a spring or weight exerted directly on the motion of wheels, or through the regulated motion of a pendulum. The marvellous pitch of exactness to which the recent methods of time-measuring have been brought was the essential condition of many of the most valuable applications of modern science.

Measures of Space.—Beginning with the simplest dimension of space, that of length, we find that the primitive *linear measures* of all nations were derived from parts of the human body, as our own words "foot," "span," "finger's-breadth," etc. remain to testify. The *cubit*, measured from the point of the elbow to the tip of the outstretched fingers, equal to 20.63 inches, was the standard for the ancient Egyptians and probably for the early Hebrews. The *ell* (whence el-bow) was the length of the whole arm, roughly supposed to be double the cubit, and probably measured from the upper edge of the breastbone. It was in use among most of the Teutonic tribes. The distance between the extremities of the outstretched arms was the *fathom*, calculated as twice the length of the ell. The lower extremity furnished the *foot* as a measure to many nations, which is still current among civilized communities, varying little in length from that in use in Greece and Rome. Applying to it the quinary system of numbers, the Romans reckoned five feet to a step or pace (*passus*), and a thousand of these to a *mile* (*millia passuum*).

All these and many more measures derived from the human body were found in current use among the natives of Mexico, Yucatan, and Central America by the early explorers. They applied them in their architecture and other arts of life, nor did they, any more than the Egyptians or Romans, rest content with the varying lengths which the proportions of different persons would give, but settled upon a fixed average standard, to which the government forced all to pay respect. In the city of Tenochtitlan—as the ancient city of Mexico was called—and elsewhere, officials were appointed whose duty it was to see that these standards, and no others, were used at the fairs and markets. Their longer measures of distance were estimated by "resting-places;" and here again was a parallelism with European words and customs, for the "league," equivalent to three miles or thereabout, is from the same root as *to lay* (German *liegen*), and refers to the distance after travelling which one should lay himself down and rest.

The lineal unit is also that for breadth and thickness; in other words, for all the dimensions of space. Applied to land measure, which must have been at an early date in the history of agriculture, it developed the science of geometry—at first on its purely practical side, that of the mensuration of superficies; later came the theoretical proofs of its theorems. For the latter we have to thank the lucid intelligence of the ancient Greeks; for although they themselves professed to have learned geometry from the Egyptians, modern research has shown that the dwellers in the Nile Valley did not go beyond the merely empiric demonstration of the problems of plane geometry.

Measures of Direction.—These include those relating to a person's position and to his horizon. The norm of the former are the true vertical and horizontal lines, and the usual instruments to determine them are the *plumb-line* and the *level*. Without these it is not possible to carry out the finer works of architecture and engineering. Yet there is no evidence that either of them was known to the ancient inhabitants of America, although they erected monuments of commanding size and impressive designs. Close study of the remains of these show that their lines were determined by the use of long and straight reeds, by the eye, and other methods lacking in the correctness of the plumb and level. The architects of the Old World had the assistance of such contrivances from an age coeval with that of the older Egyptian dynasties.

Cardinal Points.—The measures of terrestrial direction have been the same in all ages and countries, though the accuracy with which they have been located varies with the mathematical instruction of the people. They are the four cardinal points, North, South, East, and West. That these four should always have been selected depends on the conformation of the human body and its necessary relations to its terrestrial environment. The anterior and posterior planes of the body, the right and left hands, suggest the fourfold relation of space, which is borne out by the celestial points defined by the rising and the setting sun and by the revolution of the starry heavens around the fixed pole-star. A wanderer in a trackless desert with no guides but these, no wonder that the primitive savage took constant note of their bearings, and as he grew in wisdom was governed by them in his weightiest undertakings. This we see the world over in the religions, the arts, the social life, and the forms of government of men. Long after man had emerged from the condition of savagery their influence remained. The ancient monarchies of Egypt, Syria, China, Mesopotamia, and India in the Old World, and in the New those of Peru, Araucania, the Muyscas, the Tlascalans, and others, were organized in the form of tetrarchies, divided in accordance with, and in some instances the divisions named after, the cardinal points. Their chief cities were frequently quartered by streets running north, south, east, and west. The chief officers of the government being four in number, the whole social organization assumed a quadruplicate form. The official title of the Inca of Peru and of the emperor of China was "lord of the four quarters of the earth," the terrestrial plane being conceived as a vast level with four sides and four corners.

Most of the important monuments of ancient architecture are built with careful reference to the cardinal points, their doors, their angles, and their sides being adjusted by them. Often this was connected with religious sentiments, as that the temples should face the rising sun or look toward the warm south.

Geodesy and Cartography.—The earliest astronomy was directed toward finding accurate measures of direction for these points on which so much else depended. The apparent motions of the sun in the ecliptic

cast an uncertainty on the precise location of east and west on the horizon to rectify which demanded long observation. In later days, when the magnetic needle offered a means constantly at hand to ascertain the north, its local and secular variations led to the study of the magnetic meridians and the phenomena of terrestrial magnetism, which has yet far from unfolded its meanings. Geodesy and cartography have only risen to the position of sciences since the measures of direction invented within the present century have reduced to an unimportant minimum the errors of observation.

Measures of Gravity.—To “heft” an object is so natural a way to test and compare its quantity that one is surprised to find that even the most cultivated nations of the New World do not appear ever to have had a recognized unit of weight. Their records speak of a “load of maize,” as much as a man could conveniently carry, but all goods were sold by bulk or number or measure, never by weight. The balance and the scales were totally unknown. Yet on very ancient paintings of the Egyptians the merchant is seen with his scales carefully weighing his wares, and in China they have been in use from the dawn of history. The unit of weight was frequently taken from a grain of a cereal, as the word “grain,” *granum*, and the Old English “barleycorn,” indicate. The discovery of specific gravity, attributed to the philosopher of Syracuse, Archimedes, led in later times to many applications of measures of gravity of high importance.

Metric System.—We need not pursue the recent development of the methods of measuring and weighing; it has been only by their assiduous cultivation, and by the extraordinary perfection which they have in consequence attained, that modern science has reached the height at which we see it. At the close of the last century the French devised the metric system, in which a supposed natural unit, a fraction of the diameter of the earth, was taken as the base. Later researches have shown that the computation was erroneous, and that the base of the metric system is as artificial as any other. But the convenience of its details has led to an effort for its general acceptance by civilized peoples.

Measures of Force.—Men of science are well aware that much still remains to be done in this direction. It is only by reaching some common measure of all the expressions of force that we can hope to master the highest problems of physics. Thus, expansive force can be expressed in lineal measure by “foot-pounds,” this being the amount of force required to lift a pound the vertical height of one foot. Heat is measured in many ways, chiefly by its expansive action on the column of mercury in the thermometer. Light is estimated in the photometer by “candle-powers,” and electricity by the measure of its resistance to tension, as “ohms.” The influence of such studies in bringing the forces of nature under the control of man, and thus shaping the character and destiny of races and nations, cannot be overestimated.

7. MEDIA OF EXCHANGE.

The advantage which an established medium of exchange has proved to the development of nations has been fully recognized by those who have given their attention to historical questions. Money, using the word in its widest sense, has been called by one writer "the instrument of human association" (Lea), and as such has been stated by another to have been "the means to which modern life has been indebted for its civilization" (Storch).

Earliest Currencies.—The ruder forms of commerce can be and are carried on by a system of trading or barter, the surplus of one locality being exchanged for the surplus in some other line of production of another. The first approach toward a currency was when such products, valuable in themselves, but not those desired by the purchaser, were accepted as an equivalent of the value of other goods, or were taken for a standard of comparison, as when the Newfoundlander, trading skins for powder, estimates each as worth so many codfish, the article which he generally has to sell. Our word *pecuniary* refers in its derivation to such a condition of commerce, as it is from *pecus*, cattle, which in ancient Italian days must have been accepted as the standard of value and the general representative of wealth in a pastoral people.

Tradition says that later, instead of sending the cattle bodily, which would at times have been inconvenient, merely a piece of a hide was sent, upon it being painted or stamped the number of head agreed upon; and hence the Latin name for money, *pecunia*. By presenting this voucher the purchaser could obtain the cattle themselves.

This was a wonderful step in advance, and established a medium of exchange fulfilling its essential condition—that its value must not be intrinsic, but merely a matter of agreement between the contracting parties. The less its real value, the more perfect a currency does it become. This was long ago noted by Aristotle, who defined money as "that which derives its value through law and custom, and not by nature"—a distinction not unfrequently overlooked by later philosophers.

When the ancient Italian drover accepted the strip of painted leather for his fat bullocks, he exhibited a confidence in the uprightness of the purchaser, or a faith in the laws of the state to protect its citizens, in the highest degree creditable to the moral and social condition of his day. Such transactions can take place, such purely conventional values can be assigned to media in themselves of little worth, only when men and nations recognize and respect the rights of others; and the more frequent these transactions, the higher becomes the cultivation of the sentiments of justice and fair dealing, the respect for law, and the desire for uniform and established systems of government. To the extent that such a representative of value is accepted as good the intercourse of mankind is facilitated, and those crossings of blood, language, and culture are encouraged upon which, as we have previously said, the intellectual evolution of the

species depends. Hence it is that in ethnology a study of the media of exchange current in a nation must always claim a prominent position.

These media have been, and are, very various. We have spoken of the leather money of ancient Italy, whence it extended to the Carthaginian provinces of Africa or else was borrowed from the latter.

Probably the substance which first furnished a currency in the proper sense of the word was *shell*. It had no intrinsic value, but came into notice as a means of personal decoration, and from this passed to a widely-recognized medium of exchange. The primitive Chinese coins, dating back perhaps four thousand years before our era, were pieces of tortoise-shell, which was cut into slips or disks, perforated, and strung on strings. Shells of other species of marine animals were cut into pieces of uniform size, polished, and employed in the same manner by the inhabitants of the Micronesian Archipelago in the North Pacific, by their southern neighbors the Melanese, by the Indians of California, New Mexico, and Yucatan, and by those of the eastern coast of North America. Among the Algonkin tribes of the latter stock this native money was known as *wampum*, and in the early days of the colonies it became the accepted currency of the white settlers of New England. In it they made their bargains and paid their taxes to the government (*pl.* 36).

Small shells in their natural form, especially those of the *Cypræa moneta*, have for ages been the currency of numerous tribes in Southern Asia and Western Africa. Some conception of the extent of their circulation may be formed from the fact that not long since the imports of these cowry-shells from India into England for reshipment to the African coast, where they are used for buying ivory and palm oil, amounted to a thousand tons a year. The *Dentalium*, a small shell found on the north-west coast of North America, is prized by the natives, and has been employed in exchanges so long and over so extended an area that specimens of it have been disinterred from the Mound-builders' constructions in the upper valley of the Ohio.

Mexican Coins.—In Mexico and Central America commerce was active; every city held its fairs, and the merchants were an active and most respected class, in some districts (Acatlan) the most successful trader being elected as the ruler. Their principal medium of exchange was cacao-beans, themselves a valued article of food, but passing at a conventional value. They are said by some antiquaries to have had a copper coinage, thin plates of that metal, cut into semilunar pieces of equal size, having sometimes been found in hoards in large numbers. If this were established, it would be the nearest approach to a metallic currency known among American tribes, although the natives of Vancouver Island and the adjacent shores have for ages possessed plates of native copper, hammered into sheets six to twelve inches square, and appear to recognize them as units of value in barter.

The Precious Metals.—What are called the *precious metals* have, as metals, a minor value in the arts of utility. The estimate put upon them

from remote times and in so many nations is almost wholly artificial. That it is ancient, we know from the Egyptian paintings, where merchants are represented weighing out *gold* and *silver* in exchange for goods, and from the references in the book of Genesis to Abraham paying "shekels of silver, current money with the merchant," for the land he bought (Gen. xxiii.). In those days, and for a long time subsequent, weight alone was the measure of the shekels or other units applied to metallic money. Practically, it is so to this day, as is seen in the Bank of England, which neither pays nor receives coins except by weight. This method, however, is so inconvenient in the pressure of ordinary business that some inventive genius in ancient Lydia or Phrygia bethought him of dividing the metal into pieces of equal weight and alloy and stamping alike those of the same value. These were the coins in *electrum*, five-sixths gold and one-sixth silver, said to be the first ever manufactured. The idea was well received, and in a few centuries had not only extended throughout the civilized world of that date, but had been carried to a degree of perfection which, from its artistic side, has never since been equalled. The Greek coinage of the age of the Macedonian conquerors for beauty of design and execution stands peerless in the history of numismatics.

Gradually all other metals gave way as currency to those first chosen by the Oriental coiners—gold and silver—or at least became restricted to narrow, local usage. Tin—which in ancient times was coined among the Romans, Sicilians, and Britons—is still employed for small denominations in Holland. Leaden coins, once not uncommon among the Mediterranean nations, now linger only in the distant kingdom of Burmah in Farther India. Iron, which in the form of spikes and bars was once the coinage of Greece and Britain, no longer passes current except among some rude African tribes. In modern times platinum in Russia and nickel in the United States have had limited application in mints, but neither seems destined to general popularity.

Paper Money.—Gold and silver are, and are likely to remain, the chief materials of currency and the standards of value. Although, as has been said, of no signal practical service to man, they are of some intrinsic worth. Therefore it was a decided advance in the true theory of the medium of exchange, although nothing more than a reversion to the first form, the painted strip of leather, *pecunia*, when an emperor of China in the eighth century stamped a certain value on a piece of mulberry-bark and issued an edict that any of his subjects who should refuse to accept it at this value should be forthwith decapitated! This was in strict accordance with the Aristotelian definition of money—"something that has its value by law and not by nature" (see p. 115)—and is the first historic example of *paper money*, which has now obtained such wide acceptance throughout the world. That medium of exchange will, however, be always the standard, governing all others, which is most widely recognized as such; and therefore at present gold alone is and must long remain that by which others are appraised. Paper money can only be a valuable currency to

the extent that it can be converted into gold. The idea of a "national" currency is a delusion and an impossibility.

Effects of the Love of Money.—The introduction of widely-recognized media of exchange, like gold and silver, developed to an extraordinary extent the notions of personal property and individual ownership—sentiments almost unknown to the savage condition, where all property belongs to the family. The "thirst for gold" and the "hunger for riches" (*auri sacra fames*) are frequent themes of reprobation by the writers in classical ages, both sacred and profane. The "love of money" is condemned by the apostle as "the root of all evil." In the New Testament the chances of the rich to inherit the kingdom of heaven are placed little above zero. These references prove that the evil passions stimulated by the liberty of personal acquisition had deeply seared the ancient world at the period of the Roman empire. The prevalence of such passions in a nation, their advantages and disadvantages to it and the race, are the questions which must occupy the ethnologist in his study of this branch of his subject.

A striking modern example may be selected in the Spanish monarchy. At the period when the discovery of Columbus opened to the Spanish nation the teeming storehouses of the New World the final overthrow of the Moors had left the Peninsula filled with brave and energetic soldiers of one faith and language, but cursed with a contempt for peaceful labor and an insatiable desire for wealth.

The hunt for gold, and no higher object, inspired Columbus; and the troops of cruel and greedy adventurers that descended like a flock of vultures on the feeble communities of the Western continent cared for nothing but to extort by any and every means this precious metal from the wretched natives. When Pedro de Alvarado tore with his own hands the gold rings from the lips and ears of the chief of the Cakchiquels, who had received him with hospitality, and the bleeding native prince wept before him, it was a picture of the general attitude of the two races; and when the Nicaraguans seized a Spanish goldhunter and poured the molten metal down his throat, it was symbolic of how they regarded his nation and a portent of its fate.

The continent was ransacked for gold from Oregon to Patagonia; the most fertile tracts were disregarded, or cultivated only by the cruellest exactions of slave-labor; the mines were worked in a manner equally reckless of economy and human life. Illiterate soldiers of fortune, like Pizarro, destroyed ruthlessly the results of centuries of nascent civilization, while more scholarly but not more scrupulous adventurers, like Cortes, could boast of what "jolly corsairs" they had been in their Western life. The fertile slopes of the Appalachians, the green prairies and rich bottom-lands of the Mississippi Valley, now supporting tens of millions of prosperous inhabitants, were marked on the Spanish maps "lands of no account" (*tierras de ningun provecho*), because they yielded no gold.

And what was the result? When looking on a previous page (38) for

the most deteriorated specimens of the white race, we found none others so low as the American descendants of the proud Castilians. Nor did the gold they got benefit the mother-country. It is a standing puzzle with historians how the Indies poured their auriferous stream for generations into Spain and left it as poor as ever—far poorer, for not only was its currency debased, but its ancient energy, its valor, its spirit of enterprise and progress, had been bartered and lost for the gold which was no longer its own.

II. THE ÆSTHETIC ARTS.

Classification.—The æsthetic arts are those designed to give pleasure. Their aim is primarily to affect the senses in an agreeable manner, and by association the emotions and the intellect. Hence a philosophical examination of them could with propriety classify them in a physiological scheme as they are addressed to one or other of the senses, sight, hearing, taste, smell, or touch, in the forms of color, tone, flavor, odor, or tact; and this has been adopted by some writers; but for the present study it will be more convenient to arrange them under their objective expressions, as,

1. Decorative Designs in Line and Color;
2. Sculpture and Modelling;
3. Music and Musical Instruments;
4. Scents and Flavors;
5. Games and Festivals.

These are the “arts of pleasure” with which man seeks to intensify the sense of existence by bringing into enjoyable activity the various faculties with which he is endowed. The effort is by no means confined to the human species, though in none other does it approach the development there observed. The germs of most of the arts named are easily recognized in numbers of the lower animals. So many examples to this effect have been furnished by those who have studied the development of mind in the inferior species that it is needless to go into detail on this point. The domestic cat illustrates the love of games and frolic common to the young of most of the higher animals, and in its fondness for the taste and scent of valerian it seeks a stimulation of its gustatory and olfactory nerves for the sake of pleasure only. Not only the birds, but some species of mice and monkeys, have a correct musical ear, and sing in strict accordance to the rules of harmony. In the homes of the house-building rodents and the mud-wasps there is an attention to proportion and to smoothing and trimming the outside of their structures which has no obvious impulse except in a sense of the harmony of related parts. Many quadrupeds manifest not merely a perception of colors, but strong preferences and aversions for them, as in the common example of the irritating effect of a red rag on a bull. The gorgeous plumage of the peacock is most obviously appreciated by himself and his fellows; and some of the bower-building birds tastefully ornament the “playing-passages”

they construct by fastening bright feathers and gaudy leaves along their walls (Darwin). The scent-bags possessed by various species of animals emit odors agreeable to their own kind.

Their Relation to Sexual Instinct.—Many of these developments of the æsthetic powers are intended, according to naturalists, especially as allurements to the opposite sex. Whatever their ultimate aim, their proximate object is to excite pleasurable sensations in the sense to which they are addressed. Most of the “arts of pleasure” to which man devotes himself are also indirectly ministers at the same shrine. The ideal of beauty which inspires the painter and sculptor, the figures of dances, and the vibrating tones of music have most frequently direct reference to the love of man to woman, the devotion of woman to man. They are stimulants to the emotions, but they nearly all revolve around the central emotion of the sexual passion.

Their Influence on Social Life.—It is from this intimate natural and genetic association with the laws of the continuance of the species that they become of such moment to the study of history and ethnology. The arts of pleasure, properly cultivated, increase the happiness of a community and favor its life and growth, but misapplied, or pursued as ends in themselves, bring about the decadency of nations. The relations of æsthetics to ethics are altogether too extensive to be discussed in this connection; but whoever has studied the history of the fine arts must acknowledge that when their products have been signally impure it was always during the decline of national vigor, and that their grandest triumphs have been in nations struggling nobly for freedom and power.

The Theory of the Beautiful.—The ethnologist will also note national and race characteristics in other tendencies of art than where it touches morality. The theory of the beautiful is not altogether one of caprice, as some philosophers would have us believe. There are certain laws underlying the proportions of the human body which define what is symmetry and what is not, within close limits. They are not inflexible, like those of geometry, but adaptable, like all those of organic life.

These laws were intuitively perceived in their greatest clearness by the ancient Greeks, and the models of art wrought by that nation have ever served as prototypes to later generations. The remains of their art contrast forcibly with the products of Mongolian workmen, usually inclining to exaggeration and caricature; with the examples from ancient Egypt, characterized by conventional elements; and with those of most uncultivated peoples, which are generally aimed to incite terror or laughter rather than to cultivate the conception of beauty.

I. DECORATIVE DESIGNS IN LINE AND COLOR.

Probably the first canvas on which man exercised his taste for decoration was his own skin. To the naked savage, painting his face and body takes the place of clothing, both in its useful aspect as a protection against

the weather and the attacks of insects, and in its more important purpose of adding to his beauty and dignity. Humboldt tells us that among the Indians of the Orinoco their expression for the most abject poverty is, "The man has not enough to paint half his body;" and adds that their more esteemed paints are so costly that the wages of a fortnight's labor are required to purchase sufficient for one toilette.

The choice of colors and the designs varied with the nation, the age, and the rank. The colors were obtained both from vegetable and mineral sources, red, blue, and white clays being especially sought after. They were transported for long distances, and rubbed and mixed with great pains. The numerous "mullers" and paint-pots found among the remains of the Stone Age in all parts of the world—especially, perhaps, in America—furnish abundant testimony to the zeal with which the art was carried on.

The custom was found in every continent, and still remains among many uncultivated tribes. Survivals of it, indeed, are noticeable in nations of considerable cultivation. Most of the Malays color their teeth, others stain the finger-nails, and the belles of Paris and their imitators dye their hair, tint the eyebrows, darken the under lid, and the like, with the same motive that the Mohave girl draws a broad band of red paint across her face (*comp. pl. 12, figs. 1, 2*).

Tattooing.—Closely akin to this is the custom of *tattooing*. Here the paint is fixed indelibly in the skin by pricking the surface with a sharp thorn or needle. Scarcely more than a thousand years have passed since this barbaric decoration was so common in Great Britain that one of its native tribes, the Picts (*picti*, "painted"), is believed to have derived its name from the tattooed skins of its warriors.

The object aimed at is usually to increase the personal impression. The woman desires to make herself attractive, like the New Zealand belle, who is considered repulsive unless her lips are carefully tattooed black; the warrior wishes to strike terror into the hearts of his foes by his grisly visage. Accessory purposes are, that the tattooed designs answer for permanent records of the individual's noteworthy deeds, or when, as in the South Sea islands, the figure of the personal divinity or "guardian angel" is pricked into the skin, and is thus sure to be always present with its protecting power (see *pl. 15, fig. 5; pl. 16, fig. 3; pl. 19, figs. 7, 9*).

This custom is by no means extinct. Probably the ancient world offered no finer specimen of tattooed skin than that of the Albanian who for a number of years has travelled in Europe and America exhibiting himself. It is curious to note how the elaborate and artistic designs convey the effect of clothing and remove the impression of nudity. Sailors delight in this decoration, and few will be found who have not designs on their arms and legs. Indeed, among the minor industries of the great cities professors of the art still flourish, as came prominently to the knowledge of the public in Philadelphia recently through one of them inoculating about forty of his patrons with a specific disease. He was accus-

tomed to moisten the tip of his needles in his mouth before inserting them, and thus conveyed the poison to their systems.

Art of Drawing.—Decoration by lines and the art of drawing had already attained considerable advancement at a period when the reindeer and the hairy mammoth sported over the fields of France. That region was then occupied by a nation of such surprising artistic capacities that the remains of its drawings, scratched on bones and stones, excited when first discovered the incredulity of antiquaries. But later research removed all grounds of scepticism, and we must recognize in that early folk a people of about the plane of culture and capacity of the present Eskimos.

Rock-Drawings.—One of the most common purposes of primitive drawing is to convey information by pictures. The "petroglyphs," or rock-inscriptions, which occur abundantly in Northern Asia and in many parts of North and South America, are drawings, more or less rude, commemorative of the exploits of warriors or of the migrations of tribes. Their general drift may sometimes be recovered by comparing them with the conventional figures of other nations in the same stage of culture, and with those elements of the gesture-language which are the common property of the race (comp. *pl.* 32, *fig.* 2).

Decoration on Pottery.—When pottery was invented the soft clay offered a favorable surface for receiving and retaining the designs of the native decorators. For the study of the principles of primitive line-work no class of relics offers such a field as a collection of savage ceramics. When specimens from localities wide asunder are compared, the frequent similarities in the ornamentation testify forcibly to the narrow limits of man's inventive capacity. The lines are usually straight, meeting at angles, recurring in set patterns, and produced by similar agencies, as a sharp-pointed stick or the finger-nail. Curves are rare, and actual figures belong to a comparatively late period. Greek patterns, or "grecques," where the lines are broken to form angular figures, repeated one after another, are to be classed among the earliest compositions. They are seen on the rough earthenware of the New Jersey Indians, as well as on the finer products of the Mexican ceramists. Their utmost development, indeed, is preserved in the latter country in the ruins of the ancient city of Mitla, where over twenty such designs were counted on the façade of a single building (Aymé) (see *pl.* 43, *fig.* 8).

Elements of Drawing.—A graceful Greek story relates that drawing was first invented by a girl in outlining the shadow of her lover as it was cast upon a wall; and it is not impossible that the figure formed by the shadow supplied suggestions to the early learners for perfecting the proportions of their figures "in the flat." Certain it is, however, that their progress was very slow. Those indispensable elements of the higher pictorial art, perspective and chiar-oscuro, were unknown in ancient Egypt, in Babylon, or Assyria, and are to this day in China and Japan. We need not add that no nation of lower culture had achieved them. Although we have

no nearer specimens of old Greek art in this line than some probably third-rate copies recovered from the buried city of Pompeii, yet they are sufficient to show that these principles were recognized by that gifted people. Forgotten in the Dark Ages, they were recovered at the revival of learning, and in modern times have been cultivated to a degree of mathematical accuracy.

Decorations in Textile Materials.—The invention of textile material offered another fertile field to the passion for ornamentation. The coarse rush mats which the Indian women wove from the stalks and leaves of the sweet-flag and from the split bamboos of the tropics bore generally traces of designs and colors. When such material came in use as clothing, its decoration was vastly richer. The mummy-cloth from Peruvian graves exhibits extraordinary variety and intricacy of patterns. To produce and vary them required a constant exercise of ingenuity, an attention to nice mechanical adjustments, and to harmonies of proportion and color which found their ultimate expression in such wonders of taste, inventive genius, and patient endeavor as the Jacquard loom, the Gobelin tapestries, and the modern designs for dress goods.

The Color Sense.—In connection with this branch of our subject a physiological question of much ethnologic interest must be mentioned—that is, *the development of the color sense*. Many writers have argued that the perception of the finer distinctions of color is quite a modern acquisition of civilized people, that the savage races are incapable of it, and that even in the early historic times, as at the period of the composition of the Homeric poems and the books of the Pentateuch, many shades now easily distinguished were confounded. Neither in the pages of those early records, it is argued, nor in the languages of savage nations, can there be found words indicative of a developed sense of color comparable to that which we now enjoy.

There is a certain degree of truth in this view. In none of the Central American languages of the Maya stock, for example, are there original words for *blue* and *green*. They are designated by the same word, with modifying affixes. Therefore there must have been a period when the ancestors of these people, looking upward, did not distinguish in language between the colors of the green leaves of the forest and the blue of the sky beyond. But it does not necessarily follow that they did not have the perception of the difference. Language develops only as it is required. In many American languages there are no separate radicals for *blue* and *yellow*, so that there must have been a time when these perceptions were blended in language, however widely apart they seem to us. The Nez Percés of the North-west, a rather unusually intelligent tribe, appear to distinguish but three colors in the rainbow, as they name only that number. The Aryan tongues bear traces of a similar absence of color notation at some remote period. The pairs *gray* and *green*, *blue* and *black*, are derived each from a single radical, so that our Aryan ancestors expressed no difference between them.

But such evidence is not conclusive. From other aspects these dialects appear superfluously rich in words denoting color. In many there will be two, three, or more for the same tint as it appears on different objects. Thus, in the Klamath there are three radically different words for blue—one as it appears on beads; a second, on flowers; and a third, on garments. Again they will distinguish shades which are important to them, as the changing color of game animals, with an extraordinary particularity which goes far beyond our vocabulary. A scientific traveller who provided himself with a chromatic scale of twenty colors, and discussed it with members of seven different tribes of Indians in the Western United States, reached the conclusion that they "distinguish as many, if not more, shades of color than we do" (Gatschet). This interesting ethnologic question may therefore be considered one demanding further investigation.

The Symbolism of Colors.—Decorative tints must engage the ethnologist from another direction—that of their *meaning*, the doctrines of *color symbolism*, which presents many curious features. In primitive art the color is more significant than the design, and this extended far down in the history of picture-writing, as is seen in the Aztec manuscripts. The messages transmitted by belts of wampum and painted sticks between the tribes of Northern America told their story not by their figures, but by their color, the meaning of which was fixed over wide areas. When they were intent on a visit of peace to a neighboring tribe, they sent a blue girdle and painted their faces of the same color (Loskiel); but when the message was one of war, they sent the belt of red wampum and the "war-paint" was of red earth. "White," says Adair, speaking of the Creeks and their neighbors, "is their fixed emblem of peace, happiness, prosperity, and holiness;" and the priests of the pacific deities of Peru and Mexico clothed themselves in white robes.

The instances here cited from America could be paralleled with numerous others from ancient and modern art all over the world; but it will be sufficient merely to throw out this suggestion of the important bearings of this feature of decorative art.

2. SCULPTURE AND MODELLING.

The earliest indications of the imitative art of the sculptor come down to us from the "reindeer period" of Western Europe. They are representations of this and other animals rudely chiselled from pieces of its horns. Probably the oldest of all known human figures is a little statuette of this material in the collection of Vibraye, and it is significant of the inspiration of art through all time, to which we have already alluded (see p. 120), that it is the figure of a female, so distinctly pronounced that it has received the classical appellation, "*Venus impudicus*." The passage from this rude and obscene little image up to the noble proportions, the discreet drapery, and the godlike expression of the Venus of

Milo, marks the progress of the sculptor's art, ever impelled by the haunting dreams of womanly charms.

Egyptian Sculpture.—The way was long, and many cycles and many nations had to run their careers before its goal was reached. Thousands of years elapsed before the artist could free himself from the fetters of the material in which he worked. The prohibition of innovations in ancient Egypt probably checked what would have been brilliant progress there, for the finest examples of their work are the oldest. The celebrated "wooden man" preserved in the museum of Boolak is believed to have been carved nearly four thousand years before the Christian era, and yet the body is admirably modelled and the head life-like. In later Egyptian works it is not equalled, and although the artists acquired surprising efficiency in carving stone, the limbs of their statues were not developed as independent members, but remained attached throughout a part or the whole of their length to the body or to the matrix. This is also the character of the Assyrian and early Cypriote work. Anatomy was little regarded, and grace of position not at all. Only in the hands of Greek sculptors did the art reach the degree of perfection which satisfied the trained æsthetic sense.

Native American Sculpture.—The highest development of this art in the New World did not attain the level of that of Egypt in its earliest recorded dynasties. There has been no statue of any material discovered in America equal on its artistic side to the "wooden man" above mentioned. With considerable skill in technique, the Americans fell far away from the higher ideals of art, even when, as in modelling in clay, they had entire command of the material. This is nearly as true of the most cultivated nations as of those of ruder lives. The severe judgment of the Carthusian, De Salazar, who spent several years in Mexico about 1550, when numerous remains of its native arts were extant, is almost borne out by the collections of archæologists: "Of all the carvings and images I saw among those Western peoples, whether in wood or stone or gold or silver or bone or any other substance, I have not seen one but was disagreeable, ugly, and, to speak plainly, diabolical; although I am by no means insensible to the beauties of the equally heathen statues of the ancient Greeks and Romans." When in our own century such an eminent critic of art as Wilhelm von Humboldt expresses himself of the Aztec productions in words almost as sweeping, we are obliged to deny to those nations the gift of the conception of ideal beauty and harmonic proportion.

Secret of Greek Art.—Plastic art, be it remembered, in its highest expressions does not mean mere superior technical skill, nor simply exact and faithful imitation of nature. Its products must possess something which brings the observer into unison with the mood of the artist in his moments of creation, thus establishing a sympathy of soul based on universal and ever-living sentiments. This was the secret of Greek art, and this is why it holds its sway over the cultured mind when the more mathematically accurate productions of modern studios leave it cold. In the

psychology of nations there are few more instructive contrasts than are presented by their relative appreciation of art in this its highest definition.

Prohibitions of Artistic Studies.—Plato tells us that the Egyptian designers “were forbidden to select any new subjects or to invent any new methods;” and we have seen how completely these restrictions blighted the opening flowers of plastic and glyptic art in that nation. But it was not merely dwarfed, it was wholly rooted out, in several of the most intelligent communities of the ancient world. The command, “Thou shalt not make unto thee a graven image, nor the likeness of any form that is in heaven above, or that is in the earth beneath, or that is in the water under the earth” (Ex. xx.), came to the Israelites with the most solemn surroundings of a divine mandate; and though it is not easy to reconcile it with the practice of placing the figures of the cherubim in the temple and with the work of artists, such as “Bezaleel the son of Uri,” cunning “in cutting of stones for setting, and in carving of wood, to work in all manner of workmanship” (Ex. xxxi.), unquestionably this nation was prevented from any general practice of modelling or carving. The Persians, who also regarded all images of a religious character as evidences of impiety, retrograded from the height attained by the Assyrian sculptors, and their productions, always of a secular character, were never marked by taste nor by an improved technique. Inheriting or adapting the Hebrew hatred of idol-worship, Mohammed extended the prohibition against images even to painting, and throughout the varied nations which in time adopted the religion he founded there are no representations of animal forms by any means known to art. The iconoclastic sects which have at times arisen in the Christian Church, and the influence of the widespread Greek ritual and doctrines forbidding statues (although permitting pictures), have acted as serious drawbacks to this beautiful expression of the æsthetic sense exerting its legitimate influence on the development of the race.

3. MUSIC AND MUSICAL INSTRUMENTS.

We have previously referred (p. 94) to the love of singing, which is as much a part of the nature of man as it is of some species of monkeys and birds. To increase the effect of the tones of the voice every nation, no matter how rude, has called in the aid of some sort of resonant instrument. This brings about a division of the subject into vocal and instrumental music.

Vocal Music.—Nations are by no means alike in their singing powers. Even divisions of the same nation differ widely in this respect. To a certain extent, this depends upon the language and the dialect. The muffled and nasal sounds of the Otomi language could not possibly equal in melody those of its immediate neighbor, the sonorous Nahuatl; the harsh Catalan dialect of Spain is of itself much less musical than the Castilian; the guttural German less than the vocalic Italian. Long ago, Johannes Diaconus, the biographer of Gregory the Great, expressed his despair of the Germans ever singing the Gregorian chants to suit a

refined ear; and, though their instrumental music captures the plaudits of the world to-day, it is Italian and not German opera that holds the stage. A traveller of musical taste reports that the singing of the Chinese is jarring and cacophonous, while that of the Siamese is pleasant to the European ear (Diefenbach). The voices of the Indians of the Plains have in singing a peculiar metallic ring (Clark), and those of Central America a depressing harshness (Haefkens).

The musical intonation of national songs is a recognized expression of the national spirit, as is also the facility of expression in verse. The traveller Laing relates that in approaching some negro tribes he was greeted with improvised and joyous chants; and "merry England" received this title on account of the number of ballad-singers who used to entertain its population, but whose vocation was destroyed by the gloomy religious sects which arose in the sixteenth and seventeenth centuries.

Instrumental Music.—Instrumental music has been divided into three kinds, as it is produced by vibrating surfaces, wind instruments, or those sounding by strings. Examples of the two first-mentioned varieties were in use all over the world. Some species of sonorous drum or gong early took the place of the rattle or the sticks clashed together, which were still more primitive devices for making a noise. Almost any tube a few feet long, as the stem of the cane or bamboo, will sound the successive notes of the common chord and furnish the most important of the musical intervals. Such flutes or trumpets were popular with most savage nations, and educated their ears to the correct scale of notes. The "Lydian airs" played on the pipe of Pan were in the ancient five-note scale. Pleasant-sounding flutes were manufactured in earthenware by the Mexicans, and the blasts of horns and conchs were frequent in their ceremonies (see *pl.* 53, *fig.* 11).

Stringed instruments do not seem to have been known anywhere in America, although a certain Aztec manuscript represents what appears to be a harper with his instrument. At least, they were very rare. In ancient Egypt they were common, as well as a variety of other musical contrivances. Some have alleged that Pythagoras, who was the first to teach the mathematical relations between the vibrations of strings and the musical notes they produce, learned this from the "wisdom of the Egyptians." Both Chinese and Siamese have from the dawn of history possessed a guitar, whose soft sounds are in agreeable contrast to the clangor of their general orchestra.

Our musical notation is a remote descendant from that of ancient Greece, but independent systems have been devised by other nations; as, for instance, the Abyssinians, who express the notes by the arrangements of fifty-three letters of the Amharic alphabet.

4. SCENTS AND FLAVORS.

A passion for strong odors is frequently observed among savage tribes. Members of the African race especially have this taste developed, and

employ various vegetable preparations to anoint and perfume themselves. The ancient Mexicans, according to the historian Sahagun, collected large numbers of sweet-scented flowers and aromatic plants, which they mixed with gums and resins, and burned as pastilles or employed as lotions and unguents. In that and in many other lands "the burning of sweet incense" was regarded as an act particularly acceptable to the gods, and formed a prominent feature in the rites of the temples. The early Egyptians prepared perfumes for toilet purposes and for their process of embalming. Some of them were so pungent that they are yet easily perceptible on mummies thousands of years old. Some of these were obtained from Arabia; others, even at a very early day, from so remote a country as India.

In later days the Greeks became distinguished for their skill in compounding perfumes, and during the period of the Roman empire most of this trade was in their hands. One of the principal streets of Capua was made up altogether of shops devoted to this branch of the arts. An idea of the extent to which it was carried may be derived from the *Natural History* of the elder Pliny, who gives a full account of the extraordinary number of artificial odors popular in his day. They were collected from all parts of the then known world, and for many of them fabulously high prices were paid by the luxurious aristocracy of Rome.

Pleasures of the Table.—But the extravagance of the wealthy of that day found its chief field in the search for new and pleasing flavors. The pleasures of the palate seem at all times to have exerted a most powerful attraction on the race. Merely to supply the needs of the system has ever been but a minor part in the art of preparing food. Spices, condiments, and sweet and luscious flavors have in all conditions of society urged men to undergo unwonted exertions for their enjoyment. This is prominently seen in the use of salt. Though certain tribes have been found who did not know it, as a rule it is highly prized by all races. Travellers state that a child in the Soudan will suck a piece of rock salt with the same zest that one with us will enjoy a stick of candy. The numerous remains of thick earthenware evaporating-pans around the "salt licks" of Illinois and Kentucky testify to the industries this taste developed among the aborigines of the United States. So highly prized was it in ancient Mexico that quarrels about the salt-supply were frequent causes of war between the Tlascalans and Aztecs (Jourdanet). Throughout tropical America the red pepper was scarcely less esteemed, and to this day is an invariable accompaniment of the native dishes.

The Vice of Gluttony.—In the Old World the Egyptians, Greeks, and Romans were all devoted to the pleasures of the table—to such an extent, indeed, that the severest strictures of the ancient moralists were directed against this form of indulgence. A Roman proverb ran to the effect that gluttony killed more persons than war—*plus occidit gula quam gladius*. The extravagance of the Romans in this respect knew no bounds. The famous epicure Lucullus gave dinners to a small circle of guests which

would cost as much as \$8000 ; but his expenditure was completely thrown in the shade by that of the emperor Vitellius, who in the one year in which he enjoyed the imperial dignity is said to have disbursed for his culinary expenses alone nearly a hundred million dollars, and to have sat down to single dishes of meats so rare that they cost forty thousand dollars apiece.

It is instructive to note that in modern times, at least in nations of European descent, there has been a steady decrease in the vice of gluttony, although attention to the rational pleasures of the table has not diminished. As late as the middle of the last century instances of excess in eating must have been frequent, judging from the denunciations they called forth. Now, however, in spite of a more rigid code of social ethics, condemnations of such indulgence are rarely heard, because it has almost ceased to exist.

5. GAMES AND FESTIVALS.

The summary of the arts of pleasure is expressed in the phrase "to play." It is that alone which the human being does spontaneously and willingly and without ulterior motive. The philosopher Bain, in studying the various manifestations of the will in man and other animals, found none that does not presuppose a "controlling motive" except the exercise of the muscles "for the fun of it," as in the gambols of lambs and the sports of children. To play, therefore, is the natural business of man, and would occupy all his waking hours were he not driven by wants and appetites to work. What is it that makes "the solemn brood of care plod on"? The hope that in time the period of recreation may arrive, the ardently-desired playtime.

The Roman Games.—Ethnologists have rarely given to this subject the attention it deserves. The pastimes of a people are eminently characteristic of their mental disposition, and the amount of time they devote to play and to work is, it need scarcely be said, quite as decisive as to their destiny as any trait we could name. When the historian could write the following description of a people it would ask no prophetic power to foretell its fate: "The Roman people considered the circus as their home, their temple, and the seat of the republic. The impatient crowd rushed at the dawn of day to secure their places, and there were many who passed a sleepless and anxious night under the adjacent porticos. From the morning to the evening, careless of the sun or rain, the spectators, who sometimes amounted to the number of four hundred thousand, remained in eager attention, their eyes fixed on the horses and charioteers, their minds agitated with hope and fear for the success of the colors which they espoused ; and the happiness of Rome appeared to depend on the event of a race" (Gibbon).

The Olympian Games.—The games of the circus were those of blood and brutality, and by the unanimous testimony of the early Christian writers nothing in the economy of the great city worked more disastrously

to corrupt its life and to prepare the way for the destruction of the mighty empire of which it was the heart. In contrast to these scenes of butchery let us depict the character of those games which the Greeks celebrated every four years for more than ten centuries in the sacred grounds of Olympia. No combats were allowed with any kind of weapon, but only wrestling, running, leaping, hurling the quoit, and competing in feats of dexterity and strength. No one could enter the lists whose lineage and whose character were not equally blameless, nor until he had taken a solemn oath to deal fairly with his opponent. No reward of base lucre was promised the victor, only the wreath from the sacred olive tree; but that brought with it glory that would descend to and shed perennial lustre upon his posterity, his name would be inscribed among the heroes of Greece, and poets would vie in singing the praises of his prowess. When the games were about to take place a month of truce was declared throughout the land, and any armed invasion was declared a sacrilege. From the remotest shores of Greece and from the isles of the sea princes and people thronged to Elis—poets to declaim their verses, sculptors and painters to exhibit the products of their industry, philosophers to compare their solutions of the universe. Who can estimate the influence for good which the Olympic games, conducted for more than a thousand years in this spirit, exercised on the mobile and receptive Grecian mind?

Mexican Game of Ball.—Such great national games were by no means confined to the Aryan race or to classical antiquity. We may change the scene to the empire of the Montezumas, and we encounter in all parts the favorite *tlachtli*, a game of ball. Every town and city had its court with walls, nobles and populace were alike devoted to it, and in the excitement of the contest the most reckless wagers were offered and accepted on the results. Men would bet their houses and lands, their children, their own liberty; it is even said that more than once the emperor risked his royal power on the success of his favorite players (*pl.* 38, *fig.* 4).

The Passion of Gaming.—The passion of speculating on the unknown result here alluded to is one of the strangest and also one of the strongest in human nature. With all our boasted civilization, it is only by the most stringent and universal laws that it can be prevented from working the most disastrous consequences on the whole fabric of modern society. The pleasure of the gambler cannot be explained by the desire of gain. Charles James Fox, himself a famous example of the class, well understood that when he said, "The next best thing to winning at cards is losing." The love of gambling is as strong in the breast of the savage as in that of the most persistent habitué of Parisian clubs. The Indian of the Plains will sit up all night over the sticks and pebbles which answer for his cards. The Mongolian coolie dreams of no higher delight than to risk his hard-earned wages on his favorite game. Cards and chess, invented thousands of years before the Christian era in far-off Hindostan, had spread all over Europe long before any useful knowledge contained in the lore of the Indian sages had reached their distant relatives

on the shores of the Atlantic. Both were originally imitations of the conflict of armies in the field, but now have become so refined and so remote from this significance that few players think of it.

In these and in many other respects into which we have not space to go, the games, amusements, and festivals of nations merit the close attention of the ethnologist.

III. THE RELIGIOUS ARTS.

In the foregoing pages we have classified the art-products of man with reference to the motives which led to their manufacture and the purpose for which they were designed, whether for use or to give pleasure. But this arrangement omits an active branch of artistic industry which ministers to neither of these purposes—to wit, the religious arts. These are inspired by *the religious sentiment*, a part of the psychological nature of man which will come up for examination later, and have throughout all historic time and in all branches of the race claimed a large share of the industrial activity of man.

Their Early Appearance.—Although traces of religious arts appear in remains long anterior to the beginnings of recorded history, they are not discovered in those of the earliest dates. Nothing has been exhumed, for example, among the relics of the Drift men of France and England which has any resemblance to an amulet or charm or other religious object. There is no indication that they disposed of their dead in any manner which would lead us to believe that they were given to the worship of ancestors or expected a life after death, ideas frequent in the rudest religions.

After these Drift men, contemporaries of the mammoth, had disappeared along with this huge animal, the Belgian caves were inhabited by a hardy race whom we have referred to as successfully combating the cave bear and the sabre-toothed tiger (see pp. 38, 62). Here we find for the first time what may be construed as indications of objects used for religious purposes. There was found among the bones, ashes, and stone implements around one of their hearths, and is still preserved in the Royal Museum of Brussels, the huge thigh-bone of a mammoth. That animal had long been extinct, and this bone had evidently been found somewhere, brought to the cave, and kept there for some purpose. It is not worn or chipped, as would have been the case if it had subserved some useful end, as a block, seat, or primitive anvil. Therefore, antiquaries have concluded that it was a "fetich," that it was revered as the relic of some mighty and divine Being, and was carried to the cave to become its guardian and protector.

Primitive Idols.—The earliest idols of many nations were just such massive bones or some rough stone, which for some peculiarity in color, shape, or position had attracted the attention of the horde. Thus, until a late day the Egyptians preserved certain bones at Sais alleged to be those of Osiris (Herodotus), and at Athens those of Œdipus were among

the sacred treasures. Saturn is said to have been worshipped by the Sabæans under the form of a black stone (Görres), and the Holy Kaaba in Mecca appears to be nothing more than such an unhewn block. The inhabitants of the Ladrone Islands adore a prominent rock as the ancestor of their race (Ellis); and such instances could be multiplied indefinitely.

These superstitious associations early led the worshippers to shaping and adorning the "stocks and stones" which were or which represented their gods. The Indians of the United States were observed by the early travellers to adorn certain rocks with "crowns of oak and pine branches," to daub them with their paints, and sometimes to chip them with their stone hammers into a resemblance of a man or animal, at first merely increasing an accidental similarity of shape (Kendall, La Hontan). This was the beginning of painting and sculpture applied to the religious arts.

Charms and Amulets.—Among rude tribes many minor articles are found which have exercised the ingenuity of their makers with none other than a religious purpose. Such are the charms, amulets, "medicine-bags," votive offerings, and fetiches which in some way are supposed to protect the wearer or to aid him in his undertakings. They are often among the most elaborate and laborious products of native art.

Funeral Objects.—All objects connected with funeral ceremonies or used in the disposal of the dead are understood by antiquaries to belong to the religious arts. Were the mental horizon of a nation absolutely bounded by the present life, there would be no motive to take the slightest care of the dead other than for sanitary reasons, which would not apply any more to human bodies than to those of other animals. But almost universally the corpse is the object of special and often elaborate attentions on the part of the survivors. Even when nothing more formal in the way of funeral ceremony is carried out than that of a tribe of Lower California, who were wont to tie a pair of moccasins on the feet of the deceased and leave the body in the woods (Bogaert), it indicates that there is some obscure, half-recognized notion of a life hereafter and a journey to some other sphere of action. It is the beginning of those theories which were so materially construed by the Egyptians and Peruvians, who devised laborious and costly methods of preserving the body against decay, and whose mummies by millions are preserved after the lapse of many generations as perfect almost as when placed in their tombs (see *pl.* 50, *figs.* 5-8).

Tombs.—The tomb itself is always a religious symbol, and, with temples, altars, shrines, sacred enclosures, and holy structures of all varieties, finds its motive not in the direction of use or pleasure, but in the satisfaction of the sentiments of piety.

Influence of Religious Sentiment on the Development of the Arts.—These sentiments, as we shall see on a later page, differ both in kind and degree in races and nations, and correlatively with them does the attention paid to arts of religious purpose. The result is conspicuous, and offers some extremely difficult problems in the study of the evolution of

the arts in general. Indeed, it has been, and remains, an undecided point in the history of art whether its association with religious aspirations has benefited or retarded it. On the one hand, we have the school of those who point to the bloom of Greek Art in the age of Pericles and of Modern Art in the days of Raphael and Michelangelo, and claim that such work as was then produced could only arise out of the deep aspirations of religion and from meditation on glories and beauties beyond those of earth; while, on the other hand, we have the school at the head of which stood the great Goethe, who proclaimed that the true impulse of art is *the universal in humanity*, that it is above all state policy or religious doctrine, and that it is derogatory to its claims to bind it to the promulgation of any creed or theory. Art for its own sake, *l'art pour l'art*, is the motto of that school.

The question is still open. It cannot be decided by assertion or by *a priori* reasoning. Its answer lies in the past history of art studied in the light of the psychology of races and nations. It is with art as it is with language: there are no laws of its development which hold good in all ages and throughout all nations. Each instance must be studied by itself. Associations which with one nation advanced artistic culture in another may have impeded it. Religions—eminently so Christianity itself—which have at certain periods favored art have at others used their utmost endeavors to vitiate or destroy it.

V. GOVERNMENT AND LAWS.

Development of Government.—From the earliest period in which men lived together in communities they must have had some recognition of each other's rights, some sort of an expressed or tacitly understood "social contract." What this was at the outset has attracted the attention of antiquaries and students of jurisprudence; and the inquiry is not an idle one, for from this primitive compact, which it is assumed did not differ very widely among mankind, all later forms of law and government must have slowly emerged.

These researches have as yet not led to a unity of opinion as to the status of primitive society, or else they force us to the conclusion that no such unity of form as has been assumed can be shown to have existed; and to claim that it did so exist, and advance only theoretical reasons for the belief, is contrary to the methods of exact science and sound historical investigation.

The Family and What Constitutes It.—Thus, when by the aid of comparative linguistics we carry such researches in the Aryan family through its most ancient representatives, the old Indians and Persians, the Greeks, Italians, Germans, and Slavs, we find that the first and simplest community revealed to us is "a family," which simply meant all living together in one dwelling (*familia* from the Oscan *faama*, "house"). They were women, children, captives, and dependants of one kind and another, and were all under the recognized rule of the "house-master." Marriage

was a distinctly recognized formality, and our word "wedding," which is almost the same form as then in use, preserves in its radical letters the intimation that the bridegroom went forth—"wended" his steps elsewhere—to seek his bride in some other household, and brought her home (Schrader).

Lubbock's Theory.—We have no means whatever of tracing the social organization of the Aryan stem beyond this condition. But this would not at all satisfy the theories of Sir John Lubbock, Mr. J. F. McLennan, and others of their school. As has been mentioned on a previous page (70), they claim that in the order of social development the tribe came first, a rude concourse, where the sexes lived in promiscuity; the gens or clan next, tracing its kinship through the female side, on account of the still prevailing uncertainty of paternity; and only after these did the family proper arise, tracing its descent through the male line, the purity of woman having become reasonably assured.

Morgan's Theory.—An American ethnologist of eminence, the late Mr. Lewis H. Morgan, has developed this theory with much particularity. He undertook to demonstrate that the family had progressed in ancient society through five successive forms, corresponding to as many stages of development of government and laws. These were as follows:

1. The *Consanguine Family*, founded upon the intermarriage of brothers and sisters in a group.
2. The *Punaluan Family*, where several sisters marry each other's husbands, and all form one household.
3. The *Syndyasmian* or *Pairing Family*, where there are temporary marriages between single pairs, but no fidelity is observed.
4. The *Patriarchal Family*, where one man takes several wives, and claims their exclusive allegiance.
5. The *Monogamian Family*, where single pairs unite, and each party claims the exclusive allegiance of the other.

These forms, Mr. Morgan claimed, "sprang successively one from the other, and collectively represent the growth of the idea of the family."

Against all such theorizing it may be urged that neither in history nor in geography has any tribe been discovered living in sexual promiscuity, and that it is contrary to the analogy of nature (see above, pp. 70, 71); that the second and third of Mr. Morgan's forms of family life are only exemplified in local customs, which are rather those of authorized licentiousness than of progress; and that the uncertainty of paternity need not be assumed as the origin of the tracing of descent through the mother, as that custom prevails in some tribes whose women are conspicuously virtuous. Moreover, these views have not been accepted by those most friendly to such theories. For instance, Mr. McLennan, whose own theory has been referred to, mentions Mr. Morgan's work as "that wild dream—not to say nightmare—of early institutions!"

Growth of States.—Leaving mere hypotheses aside—which, however, it seemed necessary to mention on account of the attention they have

received—the farthest pre-historic period of the Aryan race to which we can attain by linguistic analysis shows us, as above stated, the “family” as a group of related or unrelated persons under the control of a master. Several of these families living together for the sake of protection, the heads of each claiming relationship to the heads of the others either through blood or usage, form the “clan,” styled in Latin the *gens*, this word meaning “of common birth;” in Greek, the *phratry* (φρατρία) or brotherhood, and in the old Vedic poems the *sabha*, from which last has lineally descended the Lombard and Saxon-English “thorp,” a hamlet or small town.

As every such thorp, using the word in its original sense, must have a ruler, such a one was chosen from and by the heads of the families. He was called the “king,” which very ancient title is not allied, as the older etymologists thought, to the verb *can*, to be able, or *ken*, to know, but with *gens* (Greek γένος), stock, descent, and meant one who represented in himself the whole and pure lineage of the leaders of the community.

A combination of several such thorps for mutual protection or defence led to the formation of the tribe or city (*tribus*, *civitas*, πόλις). Its leader, chosen probably by election or indicated by the history of the combination itself, was called the ruler—Latin, *rex*. It was natural that he should often seek to retain and strengthen the power during his life and transmit it in his own clan. In this way were formed the hereditary chieftaincies which were in vogue among the Aryan race when it first came within the ken of history. The later aspects of their governments belong to the historian, and need not detain us here.

It is claimed by some writers that the development of the principles of government in the Malayan and American races was quite different from this. But a careful examination will disclose the fact that these differences are much less than have been supposed. For instance, the custom of tracing descent through the female line and the law of marriage outside the clan did not at all impair the devotion of the individual to his clan, and left its boundaries just as clearly defined as the patriarchal system. If we take a developed American state with a history, such as the Quichés of Central America, we can trace its governmental evolution through much the same stadia of growth as we have depicted in the Proto-Aryans.

The Quichés had thirteen clans or *calpules*, and the head of each clan was an independent chieftain within its limits, subject only to such duties to the commonwealth as ancient custom had laid upon him. The chief power was hereditary in one of the clans, limited, however, by the national council, made up of the heads of all the clans and certain priestly and other officials. Such a social conformation strongly resembles the German *gau* as it appears in early mediæval history, and in its general principles arose in all likelihood in a similar manner.

Property and Property Rights.—Some writers have assumed that the idea of property was very slowly formed in the human mind. According to Mr. Morgan, it required “immense periods of time to develop its

germ." But the germs of the ideas both of territorial and personal property, and the privileges they confer, are certainly plainly evident in the lower animals. The dog knows what belongs to his master, and will protect it; he will carry off and bury an unfinished bone with as distinct an impression that it is his as has the miser when he locks his gold in his strong-box; and both cats and dogs manifest decided resentment at others of their species encroaching on the limits of their territories. In their own way, and in matters which are of importance to themselves, savages have very positive ideas of property. One of the most frequent causes of their wars is the act of trespassing on each other's lands. The assertion of Mr. Morgan that the consideration of a common territorial area forms no part of the primitive form of government, but that this derives its respect solely from claims of personal relation, will not bear examination. For instance, at a certain treaty held in the last century in Pennsylvania the natives on one side of the Delaware consented to the stipulations; and when they were reported to those on the other bank they were accepted—not on the ground of personal kinship, but on that of territorial unity, or as one of the chiefs said, "Because we drink of one water."

Personal Property.—Property of any kind and in all classes of society is held in common so long as it is more than sufficient for all; but as soon as it falls short of this, it is claimed by whoever can hold it; and this alike in all conditions. The real and only difference is that the savage's wants are few and he is indifferent to the future. Where scarcity prevails he shows the common nature of man well developed in this respect. A traveller in the arid wastes of Australia stopped to drink of a brook, but a native hastened to warn him that that portion of the brook was his, and that he did not allow others to drink there (Waitz). The surliest English landholder could scarcely go beyond this. Among the tribes of the Orinoco a cultivated field is recognized as the private property of the person who cultivates it, but the fisheries and hunting-grounds belong to the tribe at large (Gillii). A proof that the most valued objects among savage nations were regarded as strictly personal property is given in the widespread custom of burying such with the dead, that he or she may not be deprived of the use and enjoyment of them in the other life.

Tenure of Land.—Land as a general thing, though by no means universally, was supposed to belong to the clan, and later more especially to the head of the clan—not individually, but as the representative of its interest. He was to hold it for the common benefit, and as many were to live on it as chose. From this came the law of primogeniture, and also the theory of the Turkish government that the sovereign is the owner of all the land in his realm. Possession by the village or community as a body, such as exists with the *mir* in Russia and with many communities in India, is but another branch of the same theory, only the title is not vested in an individual.

Where the extent of land was insufficient not only for the clan, but even for the family in its narrow sense, the opposite custom from primo-

geniture arose—that termed in Great Britain *borough English*—in which the older sons were portioned off or went forth to seek their fortunes, and the real property passed intact to the youngest son. The latest great body of laws, the *Code Napoléon*, recognizes the rights of children to the property of their parents, and by forbidding the alienation of any large part of it to other hands acknowledges to some extent the correctness of the earlier theories of property as not wholly of the individual.

Laws.—Applied to social life, the definition of a law is “a rule of action,” and it is a serious error to suppose that even the most barbarous community does not recognize many such rules. They are not the edicts of a master or a governing body, but the results of the necessary respect for each other’s rights which have been dictated by social contact. They are the customs and habits, *consuetudines et mores*, of the community, and they vary with the particular needs of each tribe. To violate them is deemed *contra bonos mores*, against good habits, or *immoral*.

At the outset every civil law is of this character, and has a sufficient and recognized reason for its existence. But this condition could never last long. Two causes have been always at work in every community to establish an artificial and unreal code of action, not necessary to the common welfare and often seriously opposed to it.

Precedents.—One of these is the strength of habit and the weight of precedent in matters of custom. A law originally established for sufficient cause continues to be enforced long after the circumstances which justified it have passed away. An instance in point is the surviving law of primogeniture in some European countries, whose origin is explained above. At present it completely fails of its original purpose and works injustice to the children.

Religious Influence.—The second cause is the claim of religions to establish laws governing social relations. This extension of the religious sentiment into the domain of legislation has in many instances completely overridden all other agencies affecting the social compact. The laws of Manu in India, of Menes in Egypt, and of Minos in Crete (if, indeed, the three are not reminiscences of the same mythical culture-hero) were all handed down as the edicts of divinity itself deciding on the rights of persons. The Pentateuch was the “Book of the Law” governing the tribes’ minutest social relations; and at this day in all Mohammedan countries there is no other civil law than the divinely-inspired Koran and its commentaries.

The Taboo.—The beginning of this condition of legislation is seen in the capricious and insensate *taboo*, or prohibition, which in the Pacific islands the priest would lay upon certain places, things, articles of diet, or persons. The natives fully believed that a violation of it would bring about instant death. Not less influential are the shamans of Siberia and the so-called “medicine-men” among the American Indians. Their commands were often wholly unreasonable and injurious to the tribe, but they were obeyed without questioning. Property was squandered, the

tillage of the fields neglected, the virtue of women sacrificed, at their behests. Missionaries and travellers are nigh unanimous that their influence has been one of the most serious drawbacks to the development of the red race.

Whether in the Old or New World, the result has been the same when founders of religions or sects undertook to impose their own dreams or theories on their fellows as rules of action in affairs of daily life; and it is a necessary result. An artificial code of morality was established, different and generally contradictory to that required by the circumstances of the community, and a long conflict arose, ending either in the gradual deterioration of the nation or in the subversion or insensible alteration of the religious code.

From these two causes there are always a number of statutes, written or unwritten, in every commonwealth which are inapplicable to the existing conditions, or they are relics of religious enactments which never had a sufficient reason. The most cultivated of modern nations are far from having thrown them off.

Blood-Revenge.—In noting the milestones which mark the positive advance in legislation we may first mention the abolition of *blood-revenge*. In barbarous conditions of society, as among the Algonkin tribes of the United States, when a person was murdered the duty devolved upon his clan to avenge his murder by slaying one of the clan or tribe of the murderer—not specifically the criminal himself, but one of his kin. This miscarriage of justice was one of the dissolving elements of early society. No firm government over several tribes could be established with indiscriminate assassination going on. For this reason one of the first steps taken by the enlightened chieftain who founded the Iroquois Confederacy was to abolish blood-revenge, and to make murder an offence against the state, punishable on the murderer by the agents of the state.

Geographical Foundation of National Unity.—Another step was the general recognition of a geographical rather than a consanguine unity of the state. We have seen that the germs of this are found in very rude conditions of society; but it took a long time to secure legislation for areas, such as counties, demes, or wards, instead of for certain families or tribes.

Long after such had apparently been the case, it was so but partially. The laws of the district did not apply equally to all the inhabitants. There were "privileged classes" who were exempt from them to a greater or less degree; and there were abject classes, such as slaves and "adscripts of the glebe," who were deprived more or less of legal immunities and protection. When the enactments for a legislative district came to be applied without distinction to its inhabitants, when all stood "equal before the law," a signal victory for justice had been achieved. But over what a small part of the earth's surface is this the case! And how recent is its advent there!

War.—The usual condition of savage nations is to be in conflict with

one another; nor can this condition be said to be confined to the lower stages of culture. Long after a considerable degree of cultivation was reached, it was looked upon as a matter in the ordinary course of events for nations to fight and men to be warriors.

Though the cruelties committed and the miseries inflicted by war have been the theme of innumerable writers, and with justice, yet it would be unfair to leave out of sight the powerful element it has been in establishing governments, instituting laws, and improving individual and national life.

Nations, like individuals, differ widely in valor and the love of contests. In some instances their timidity preserves them, as when they submit without resistance to a powerful foe; in others it leads to their destruction, and they are cut to pieces by a merciless enemy. Either of these results may occur also with a notably warlike people, but from other reasons. They may save themselves by a valorous defence of their lives, or their readiness to take up arms may lead to their extermination. The Susquehannocks, whom Captain John Smith saw and admired on the Chesapeake in 1609, were a tribe of fine frame and tireless in war, but they were completely exterminated in a few generations, while their neighbors, the peace-loving Lenape, still survive in considerable numbers.

The Advantages of War.—The beneficial influence of war is seen both on the individual and the state. The warrior or soldier must subject his appetites to the rigid discipline of the camp; he must train his muscles and his senses to their highest degree of efficiency; he must task his inventive powers for means to circumvent his enemy; he must accustom himself to act in concert with others in carrying out matured plans; and he must learn the salutary lesson of prompt and entire obedience to orders. All this is required in the forays of savages as much as in the campaigns of modern armies.

The guerdon of the successful warrior compensates for the toils of battle. In all ages he has been the typical hero of the race. His name becomes illustrious, nations and their kings delight to do him honor, the wealth of the world is at his feet.

Aside from these potent incentives to self-discipline and energy there is the delight in the contest itself. This presents in its most concentrated form the pleasure of games to which we have previously referred (p. 129). Many of the most popular amusements are imitations of the great game of war, but all fall short of the keen intensity of the reality.

" 'Twere worth ten years of peaceful life,
One hour of such a day."

This applies more forcibly to the contests of primitive races, which were carried on man against man, than to those of our own day, where hand-to-hand conflict is rare.

The Influence of War.—The influence of war in developing the invention of weapons and the construction of defensive edifices has already been

mentioned. The nation at large, as well as the individual, feels its beneficial effect. Nothing so much consolidates a community as the menace of a common foe. The earliest tribes and confederacies had no other origin. The ambition of the conqueror, which leads him to gather warriors from all directions, brings together in a mutual bond diverse nations and races, and lays the foundation for peaceful intercourse in after ages. And although the track of such a conqueror may be one of blood and fire, he brings about that intermingling of nationalities which is essential to the intellectual growth of the race. In a remarkable passage in his *Kosmos*, Alexander von Humboldt has traced the advantages to learning derived from the Asiatic campaigns of Alexander of Macedon; and in a less degree all conquerors before and since have contributed in a similar manner to the progress of ideas.

Origin of Castes.—The social distinction of *castes* is nearly always an outgrowth of war. The conquered nation were either reduced to a condition of serfdom or slavery, while the conquerors remained among them as masters. Hence the difference of castes is usually ethnologic as well as political. Such a relationship was, in England, established between the Danes and Britons, and later between the Normans and Saxons; but nowhere was the line more sharply drawn than in India, where the white Indo-Aryans conquered the brown Dravidian tribes, and in order to preserve purity of blood established barriers which have lasted four thousand years or more. Its origin is distinctly conveyed in the native name for caste, *varna*, the color of the skin.

Caste or rank within a nation has also its usual origin in distinction gained in war. Nothing else is so immediately recognized as a well-founded claim to superiority. Even very rude tribes acknowledge degrees of rank. The Polynesians were always found to be divided into nobles and commons, and many minute distinctions were in vogue. On the Oregon coast the nobles were entitled to an artificially flattened shape of the skull, which was sedulously cultivated. In Peru the higher class perforated and stretched their ears to an inordinate length, whence they were called *Orejones* by the Spaniards. Among the Abipones of South America the missionaries found as much pride of blood as they had left behind them in Europe. Poor and wrinkled old women would boast of their "line of long descent" with all the haughtiness of a Lady Clara Vere de Vere, and insist that they should be addressed in a form of the language where suffixes are added to the words to indicate respect (Dobrizhoffer). Such a dialectic variation employed in speaking to those of higher rank has also been observed in Nahuatl, Choctaw, and other American idioms. It illustrates how deeply the regard for rank is implanted among those who, we are too apt to imagine, live on a common plane of barbaric equality.

Defensive Institutions.—Living in the constant anticipation of warfare, the necessity for providing against it has always modified the forms of human society. In some nations, as the Japanese, one of the castes

looked forward to no other occupation than fighting, while the others expected to devote themselves to peaceful pursuits except in emergencies. Wherever there are large standing armies this must be the case to a great degree. In a condition of society where a state of war is more frequent than one of peace this has its advantages; but where the reverse is the case, as in modern Europe, the diversion of a large share of the best intelligence of the nation into the army detracts heavily from the general efficiency of the people.

In the American tribes there were generally two rulers—one for war, the other for pacific conditions. The latter was hereditary or elective from a limited number of families, but the former was chosen from the boldest, most skilful warriors, without other regard than to his efficiency. Sometimes two war-chiefs were selected, either that one might replace the other without delay in case of death, or that the one might serve as a check on the ambitious designs of the other (Iroquois). Traces of this sagacious plan are found in most parts of the continent.

Military Governments.—The effects of war on government reach their highest point in the establishment of military despotisms. These are far from being unmixed evils. On the contrary, they are better than a condition of freedom where each clan acts independently of the others, and personal liberty has that wide signification which was the rule among the northern tribes of America. What men most need to learn is labor and obedience, and these can usually be taught them only by a tyranny. As the learned ethnologist Waitz observes, in many conditions of society it is of much less importance that the limits of the government be defined, or that its conduct be in accord with the precepts of justice, than that it be strong and stable. By these traits men are accustomed to obey the laws, and to order their lives in accordance with a plan which embraces all the interests of the nation. The destructive consequences of exclusive self-seeking and ill-founded ambition are checked, and, following the direction assigned by one mind, the full force of the nation makes itself felt in the conduct of great affairs.

Growth of International Law.—Finally, we may mention international law as largely an outgrowth of war. Negotiations for the exchange or redemption of captives and treaties to effect peace and adjust differences led to the establishment of modes of intercourse and usages between nations, and finally to mutual legislation. Indeed, the old term for what we now call international law was "the law of war and peace," *jus belli et pacis*, which sufficiently indicates its origin. Its initiatives are visible in the customs of savage nations, where it was very generally deemed an outrage to injure a messenger of peace, and symbols were recognized as indicating his character, as the calumet among the North American tribes.

VI. RELIGIONS.

We have already adverted to the intimate connection which has widely existed between the religious sentiment and the growth of arts (above, p.

132) and forms of government (p. 137). These were but subordinate indications of its all-embracing activity in moulding the lines and shaping the destinies of individuals and nations. A general review of the directions of this part of man's nature, though necessarily brief and incomplete, will illustrate how indispensable its attentive study becomes to the ethnologist.

Definition and Sources of Religion.—In ethnologic science the word *religion* must be understood in a much wider sense than in ordinary language. Usually it is confined to divine worship as conducted by civilized nations, and is placed in contrast to *superstition* or *idolatry*. But all forms of superstition, even the grossest, are expressions of the religious sentiment of man, and in a scientific study of the subject must be included quite as much as Christianity itself. A misunderstanding on this point has led many writers, notably Sir John Lubbock and those of his school, into serious error in the discussion of primitive society. Because they did not find religious manifestations, such as they were accustomed to see, among low tribes, they have denied that these possessed any religion.

Although there are reasons, heretofore stated (see p. 131), to believe that man in the earliest Stone Age had no religion, and though no satisfactory signs of it have been detected among animals, it may be considered as established that nowhere on the globe have tribes been discovered devoid of a comparatively extensive mythology and religious cult. A recent German writer, Gustav Roskoff, in a work on *The Religions of the Rudest Peoples*, has conclusively disproved all the assertions to the contrary by Lubbock and others.

Psychology and Origin.—If we ask the psychological origin of this sentiment which we see is thus universal to the race, we are urged by the general verdict of the analysts of human nature to accept the opinion of the Roman poet who attributed it to *fear*:

“*Primus in orbe deos fecit timor.*”

But only a superficial student of the subject, such as the dilettante noble who was the reputed author of that line (Petronius Arbiter), would stop here. The emotion of fear is exceedingly prominent in the lower animals and yet in no instance has it led them to the performance of acts which can be deemed religious. Something else, therefore, something peculiarly human, is demanded to explain the notion of things divine.

Causality.—This is found in the idea of Causality—in the instinctive belief that there is an Order in the universe, producing effects by causes, even if the cause is no more than the caprice of a tyrant, for that caprice is itself the effect of a motive, and falls along with everything else under the dominion of Law. The most rigid demonstrations of science have in their last analysis no other support than this instinctive, unproved, and unprovable belief in order and cause (Bain); and we need not attempt, therefore, to go farther in search of the foundation of religious faith.

But the bare assumption of Cause, sufficient for science, does not sat-

isfy the religious sentiment, and could never have inspired its creations. These demand the further postulate that the order in things shall be one controlled by intelligence—intelligence not alien in kind, however much in degree, to that of man himself. This gave him his gods, and without this assumption the heavens would never have opened to his dreams. What grounds he has for this assumption does not concern us here; we have only to do with its results.

Character of Primitive Religions.—Returning to fear as the immediate emotional prompter of religious expressions, we find it, as we might anticipate, a marked characteristic of the lowest forms of faiths. They are frequently little beyond abject terrorisms. There may be an acknowledgment of the existence of beneficent deities, but these are not the objects of adoration; they would at least not hurt man, and he could dispense with their aid; but the malignant gods must be placated by assiduous attentions. So the Texas Indians informed the early explorer Joutel that there was a good god, but that they worshipped him not, as he let them alone; but the beings who injured them they had to appease. Travellers generally speak of the rites of savages as directed rather to allay the anger or cajole the malevolence of their gods than to thank them for favors conferred. This is strengthened by the general doctrine among such tribes that all misfortunes are the effects of resentment. In many American languages there is no word corresponding with “to die;” it is always “to be killed.” Sickness and death are not looked upon as events in the course of nature, but as punishments inflicted by an animate agent. Hence the grounds of fear are greatly increased.

But it would be unjust even to such primitive faiths as these to suppose that gratitude was absent or that the kinder gods were altogether overlooked. There are everywhere men “who dare to strive with gods,” and who revolt from a base subjection to malicious beings. Von Pertz tells of a tribe of Caffirs who refused any further attempts to pacify their persecuting gods because pestilence and hunger did not cease among them. The Andaman islanders defy the god of the storm, and shoot their arrows into the air that they may pierce him. On the other hand, even Australians, counted by some among the lowest of the race, have their kindly divinities, as Koyan, who hunts up lost children and restores them to their mother, and guards the camps at night; and Motogon, who causes the water-streams to flow through their arid lands. Their Kobong is the patron of the clan, and is regarded as an ever-present protector and adviser. Indeed, both with them, and very widely in America, the belief in a beneficent protective deity for the clan and in a personal or guardian spirit for each individual, working constantly for his welfare, is a refutation of the statement sometimes made that such religions are those of fear only. The arts in vogue among these people, their knowledge of medicines, and the introduction of what food-plants they possess are attributed to these kindly guardians.

Simplest Elements of Religion.—Reducing religion to its lowest terms,

we find that it consists in a belief that *the order of nature is controlled by mind*; and this is likewise indispensable to its most exalted expression. The difference between the two consists in removing the action of mind farther and farther from the immediate event.

We are so accustomed to associate other ideas with religion—as, for instance, those of the continuance of personal life after bodily death, or the conception of a Creator or God—that we are apt to reject that as a religion where neither of these is perceptible. Yet various examples prove that they are not necessary in even highly developed religions. The Hebrew faith does not require the belief in the life after death, and one of its important branches, the Sadducees, distinctly disavowed the existence of either “angel or spirit.” The ancient Italian religion was apparently equally materialistic. Buddhism, now the most widely accepted of all doctrines, in its original form denied the existence both of God and an immortal soul. When Hardy asked a Ceylon Buddhist to whom he prayed, he answered, “Only to myself.”

Where a god is recognized, it is rarely under an immaterial form, and it may be an inanimate object or a living person. The monarchs of ancient Egypt were not merely rulers by divine right, but were esteemed divine themselves. The king was not merely a god, but *the* god. In the autobiography of Saneha, a servant of Amenemha I., he addresses his royal master in these words: “I live by the breath which thou givest; I love Ra Horos fondly, the image of thy noble shape; the power of thy arm extends over all lands” (Tiele). No other nation has equalled the Egyptians in their worship of the lower animals, dogs, cows, monkeys, and crocodiles. But it would be a serious error on account of these, to us, repulsive and debasing ideals of divinity to conclude that their worship was either lowering or unprogressive. On the contrary, Dr. Tiele writes: “The Egyptian religion was the first civilized expression of faith in the unlimited sovereignty of the Deity.”

Doctrine of Animism.—It will readily be seen how the belief that every event is the immediate expression of intelligence led to the corollary that all objects possess an intelligence, soul, or spirit. This has been called by Dr. Tylor the doctrine of souls, or *animism*; and by this word he explains the character of primitive religions. Animism is, however, just as much the doctrine of many of the highest faiths as of those of savages; only the former remove the soul of the universe more remotely from the event, and suppose that it acts through laws and secondary causes. Primitive beliefs—those of men who had acquired no knowledge of the natural forces—construed all their manifestations as intelligential. Did a stone roll down a hillside, it was the spirit of the stone which impelled its leaps along the ground; the bubbling of the fountain was the sporting of the water-spirits; the wind in the treetops was the murmuring of the dryads. So far from being godless, the lowest races are those which are oppressed by the multitude of their divinities. The Eskimos—whom Sir John Lubbock and others adduce as a people quite

devoid of religion—by the testimony of Cranz, Egede, and Rink, people the air, the water, and the earth with countless imaginary beings of supernatural powers, some friendly, some hostile, to man.

Doctrine of Fetichism.—From this will be seen the origin of *fetichism*, a term derived from a Portuguese word, *feitiço*, applied to the material objects, animate or inanimate, worshipped by the natives of Western Africa. These objects are not revered for themselves, but for the influence they are supposed to exert through the unseen intelligences connected with them. Fetiches are generally articles of unusual shape or appearance. In Australia and Central America the rock-crystal is a favorite fetich, its symmetry and transparency marking it as something extraordinary. Bones have always been favorite objects of this character (see above, p. 131), and in some African tribes a house-owner will secure protection for his possessions by suspending a clavicle over his door.

Fetichism is by no means confined to these ignorant barbarians. The curious in such matters can find ample traces of it in civilized life. Charms and amulets are popular among the common people everywhere. The horseshoe, which in a half-serious mood so many hang over their doors, is a fetich. The chestnut or potato, carried in the pocket as a cure for rheumatism, is another. All these objects, it is believed, exert some other than their known natural powers, and this shows that they are survivals of the fetichistic period of religious thought.

Certain natural objects, on account of some prominent peculiarities, have been selected with singular unanimity all over the world as objects of adoration in this sense. Such are *trees*, *serpents*, and *birds*. In the myths or cult of nearly every religion on the globe these will be found to reappear as objects possessing mysterious power and in some way connected with the nature of divinity. The "tree of life" figures among those of the Garden of Eden in ancient Semitic records, and before they rose to a civilized condition the Accads of Mesopotamia gave to their chief city, afterward Babylon, the name *Tin-tir-ki*, "Place of the Tree of Life" (Lenormant). Painted on the sarcophagi of the Chaldees, it intimated the immortality of the soul; and the juice of its fruit was the magic beverage which would stay the hand of death. Compare this with the worship of their sacred tree by the Abnakis of Maine. It stood by the seashore, and its boughs were constantly laden with their offerings. They said it could never die, and was the good genius who granted them their wishes (Lafitau). Such examples could be quoted by scores.

The serpent and the bird must have first attracted attention by their singular powers of locomotion—one, without legs, upon the ground, the other through the air. Even wise King Solomon counted among the four matters which were too wonderful for him "the flight of an eagle through the air, the path of a serpent upon a rock;" and to this day mathematics has not solved the problems of motion they present. The venomous bite of many serpents and the melodious voices of some birds increase the mystery of their power. Hence everywhere we find them associated with the

symbolism, and often constituting the centre, of religious life—sometimes representing the beneficent, at other times the maleficent, deities. Examples are so familiar that it is needless to quote any.

In all such cases it was the mere mystery that surrounded the object, not any effect that it had upon his life, that led man to select it for the object of his adoration. He witnessed the use of powers and faculties different from those he possessed; he knew not their nature or extent, and willingly supposed that they were far wider-reaching than his limited abilities.

Worship of Natural Forces.—But those writers who have asserted that fetichism is the exclusive form of the religion of the lower tribes have been misled by a superficial study of savage life. When the votary fixes his attention no longer on the object itself, but on the influence which it exerts, he has advanced from fetichism to a recognition of natural forces, and has learned to esteem them as manifestations of the divine—a great stride. This advance is found among many, even the rudest, nations.

Perhaps the earliest as well as the most universally recognized of all such forces was *light*. The simplest myths, the most pristine rites, deify light, and surround it with countless holy associations. It is the harbinger of the day, the father of the dawn. By its sight is made possible and men can ply their busy arts. It shows man his path through the forests and stimulates his observation and his reason. Therefore it was a universal god to the race; their imaginations were tasked to invent the myths of the conquest of day over night and of the coming of the dawn. From it arose the worship of the sun and fire, with their widespread associations. They are both secondary to the light and merely its ministers.

Another great and ever-present mystery was the force of *life*, exemplified in the reproduction of animal and vegetable organisms. This was too intimately connected with man's own existence and with some of the strongest impulses of his nature to escape his early contemplation. It led to those genesiac cults which recur with marked similarity of myth and ritual the world over. Arising from feelings and observations common to man everywhere, they naturally present close parallelisms, which by some have been supposed to point to the same historic origin. Frequently their rites degenerated into licentious orgies, and to modern culture nothing could be more "irreligious" than their teachings and their artistic expressions. But they had no such debasing significance in primitive ages. The Pawnee woman, when she has planted her patch of corn, waits until the dusk of the evening has arrived, then strips herself and walks naked around the field, thus, she believes, imparting a share of her fecundity to the grains in the hills (Schoolcraft). So in ancient Greece, when the corn was sown, the house-master brought forth the image of the sacred phallus and bore it aloft over the fields, while his daughters and the maidens of his house danced around it and sang songs to the gods of the harvest. We may be sure that in neither case did a thought of impro-

priety enter the minds of the participants in these holy rites. In India, among the sixteen million worshippers of Siva, whose symbol is the lingam, it is matter of record that unchastity is far less prevalent than among most sister sects of the Hindoo faiths (Fergusson). But when, as in "Babylon, mother of harlots," it was enjoined on every woman to yield herself, at least once in her life, for money to a stranger in the gardens of the goddess Melitta, we see how certainly such a religion would lead to the depravation of woman, and with that to the degradation of the nation.

A third natural force which everywhere attracted the devotional instincts of the primitive man was *motion*. It is, indeed, the common resultant of all force, but this is the last word of modern science, not the early observation of man. It is most abstractly typified in the *wind*, which seems to be incorporeal force in motion. "Whence it cometh and whither it goeth" was the unanswerable question which in the book of Job the Almighty is represented as putting to man, and from earliest times it occupied his intellect and imagination. He could see that it brought the clouds, the cold, the changes of the weather, and the seasons—matters that in his naked and defenceless condition touched him most nearly. His scanty harvests depended upon them, and the most terrifying exhibition of power he ever saw, the deafening thunder and the forked lightning, came upon "the wings of the wind." Hence in all early faiths meteorological phenomena occupy a prominent position.

The Aim of Religions.—All these objects of reverence—be they fetiches or natural forces typified under one or another symbol—interested man solely as they concerned his welfare—his own or that of his tribe. Those who would attempt to explain early religions as a kind of natural philosophy devised to account for the existence of things have no idea of the lack of curiosity among savages, and their prevailing indifference to what does not concern their bodily comfort. Any such application was a much later one in the history of religious thought. That idol or fetic h attracted his worship who, he believed, could help him the most effectively. Thus among the Fantees of Africa it is common to buy fetiches, and one is let out on trial to the purchaser, like a horse, to be returned after a certain time if it does not prove effective (Waitz). The Neapolitan peasant will cuff or stamp upon the figure of his saint (which is nothing but a fetic h) if he misses the lucky number in the lottery, and even if he wins he may cheat his patron out of the promised taper (*passato il periclo, gabbato il santo*). The Peruvians seized the idols and gods of the nations they conquered, and, carrying them to Cuzco, shut them up so that they could do no harm, but were afraid to injure them. All such actions show that the first impulse and the sustaining motive of religion is a desire, a *wish*, either to obtain or to avoid something, not any recondite instinct of reverence nor any haunting sense of divinity, as many writers of the mystical school have argued.

Prayer and Sacrifice.—This becomes still more plainly manifest when

we critically examine the sources of two most important and universally prevalent expressions of the religious sentiment—*Prayer* and *Sacrifice*.

"Prayer," wrote the thoughtful Novalis, "is to religion what thought is to philosophy; the religious sense prays with like necessity that the reason thinks." It always has relation to supplying the wants of the petitioner. In the Psalms the Lord is spoken of as the one who "satisfies the desire" of every living thing; the favorite title of Buddha is Sidartha, "the accomplisher of the wish." All prayers of primitive people and of uncultivated minds show this in its naked materialism. They are pretty much all summed up in one which occurs in the Rig Veda: "O Lord Varuna! grant that we may prosper in *getting and keeping*." To be relieved from pain and death, to enjoy life—these exhaust the tenor of all the petitions of lower forms of religion and of nine-tenths of those of the highest. They are all of the general drift of the naïve prayer which the missionary Brebeuf heard his Huron canoeman offer to the presiding deity supposed to dwell in one of the rocks of a perilous rapid. The native laid some leaves of tobacco on the rock and said, "O thou god who dwellest in this spot, accept this tobacco; help us on our voyage, save us from shipwreck, defend us from our enemies, give us a prosperous trade, and bring us back safe and sound to our village."

This is not a whit inferior in its tenor to the model of prayer which is set up by Xenophon in his *Economics* as that of the cultivated Greek. He says, speaking in the person of Ischomachus, "I seek to obtain from the gods by proper prayers strength and health, the respect of the community, the love of my friends, an honorable termination to my combats, and riches the fruit of honest industry." The higher religions, as Christianity and Mohammedanism, took a long step in advance when they taught—at least in theory—that all such material benefits are unworthy objects of prayer, and that it should be wholly directed to obtaining spiritual enlightenment and resignation to the will of God. Confucius and Buddha went still farther, and in their own teachings discarded prayer altogether. But, properly speaking, neither of these sages set out to teach a religion, but rather the vanity of all religions. Buddha taught that the perfected sage will have extinguished all desire, and hence is above any favor which the gods, if there are any, can confer; while Confucius advised his disciples to limit their wishes to the attainable, as thus they could avoid disappointment and need ask no aid of unknown agencies.

Along with the prayers of a nation its *sacrifices* should receive attention. They are strongly indicative of the national character and the religious thought. The motive of sacrifice is always to pacify or persuade the gods into some action pleasing to the worshipper, either that they will refrain from injuring him or do him some good turn. The sacrifice is always of the nature of a gift, and its value is not the intrinsic worth of the thing given, but the pain it costs the giver to part with it. Measured by motive, this reasoning is natural and correct. The African Bushmen are often seen with one or more joints of their fingers lopped off; they

have sacrificed them to appease the envious divinities, just as Polycrates threw his choicest jewel into the sea lest the gods should be jealous of his constant good fortune. The rite of circumcision, recurring among the Israelites, the ancient Egyptians, and various American tribes, was a symbol of the completer sacrifice which induces some African tribes to submit to semi-castration (Bastian), and led the devotees of Cybele to become eunuchs.

Religions are apt to demand the renunciation of the dearest. The bloody sacrifices of the Aztecs were chiefly confined to captives taken in war, but the Norse Sagas tell us that in time of famine beasts were first sacrificed; if that failed, men of the tribe were slain; and if the dearth still continued, the king himself was obliged to die, that the gods might be persuaded to send food (the Ynglynga Saga). The Mexican culture-hero Quetzalcoatl is traditionally reported to have set his face against bloody sacrifices of all kinds, and to have taught that flowers and incense, the first-fruits of the harvests, and the brilliant feathers of birds are such articles as the gods love (Sahagun); and the Hebrew teacher expressed the idea in its highest sense when he declared that the only sacrifice acceptable to the Lord is a pure spirit and a contrite heart. Between this elevated conception and the finger-lobbing of the poor Bushman is stretched the whole scale of religious development, which, like the ladder seen by Jacob in his vision, is "set up on the earth, and the top of it reaches to heaven."

Divination.—A prominent part of all primitive religions, and intimately connected with the fruition of the wish which is their common basis, was the *prediction of future events*. In its simpler forms it appears as augury and divination by various means, and when more complete as prophecy. How much weight was attached to the dicta of the official augurs, haruspices, oracles, and the like in the classic days of Greece and Rome, and how often they decided the fate of armies and cities, no reader needs to be informed. As is remarked by Dr. Tiele, the power of the Hebrew prophets and seers was such that it virtually modified the royal power of Israel, in theory an absolutism, into a constitutional monarchy. Nothing lent such aid to Cortes and his handful of soldiers in destroying the powerful state of the Aztecs as the prevalence of an ancient prophecy, derived from the light-myth of Quetzalcoatl, that some day a white and bearded hero should come from the east and claim the land as his own. The proper word for war in a Central American dialect (the Cakchiquel) is *labal*, literally sign or omen, no contest being initiated unless the native seers had found the omens favorable. In Peru there were about sixteen classes of soothsayers, each practising a special branch of the art—one forecasting events by the shape of grains of maize, another by the ribs on tobacco leaves, a third by the forms of smoke-clouds, and so on.

So vigorous are the survivals of these primitive notions, and so eager remains the desire in the mind of man to lift the veil that shrouds the future, that it is matter of common knowledge that in all the great cities

of Christendom many persons of both sexes gain their living by ministering to this passion of the credulous vulgar. Now-a-days it has little connection with religion, but in more primitive conditions the prognostication of the future is essentially a part of the priestly function.

Development of Theistic Conceptions.—The philosopher Auguste Comte, in one of his triplets which has gained a certain amount of vogue, explained the growth of the idea of divinity as beginning in fetichism, advancing to polytheism, and reaching its acme in monotheism; and he classified the religions of the race in accordance with this view.

Monotheism and Polytheism.—We have already seen that the lowest religions known are by no means mere fetichisms, and it is equally true that the highest are not monotheisms. Even the nearest approach to a pure monotheism, that founded by Mohammed, admits the existence of numberless genii and angels who are active as ministers of the divine will. The old Hebrew faith, though maintaining that Jehovah alone was God and there was none other, did not deny the existence of other supernatural beings, such as the "gods of the heathen," Baal, Moloch, and the rest, and distinctly taught, as in the books of Genesis and Job, the presence amid the spiritual cohort of "the adversary" Satan and his assistants. The same doctrine was recognized by the early Christian Church, which taught that the deities of other religions were really existent, but that "the gods of the heathen are devils." Milton in his *Paradise Lost* carries out this doctrine in poetic fulness, and most forms of Christianity to-day inculcate a belief in saints, angels, and devils as efficient and immediate actors in the affairs of daily life. This is as far from true monotheism as possible.

Good and Bad Divinities.—The primary segmentation of the theistic conception was into kindly and unkindly deities. The germs of this we have seen in the most savage states (see above, p. 143). It is a mistake to call these "good" and "bad" deities, as is often done, unless we confine those words to their most material sense, and exclude from them everything of a moral character. The distinction is simply that they are generally favorable to the wishes of the individual or his tribe, or the reverse. The loftiest and most beneficent deity of the Algonkin Pantheon, he whom they looked upon as their father and guardian, was familiarly called "the Liar" and "the Cheat," not that they were deficient in moral sense, but that he was represented in their myths as overcoming his foes rather by deceit and wiles than by force.

Few divinities, however, were wholly kindly or hostile. Usually they were capricious, resented neglect, and required to be cajoled. This is the obvious character of most of the Homeric gods, and hence the origin of the elaborate rituals supposed to coerce them. Gradually, as the influence of one and another became more popular or more apparent, there grew up a fixity of character and an antagonism of action not known in younger faiths. We may suppose that it required a nation remarkable for deep sympathies and strong emotions, and with a checkered career, to develop this antag-

onism into the sharp contrast presented by the divinities in the Zend Avesta. Here the kindly gods headed by Ormuzd (Ahura Mazda) find their plans for man's welfare ceaselessly checked and spoiled by the hostile legions under the control of Ahriman (Anyā-Mainyus). Through the Manichean doctrines of the early Christian Church—doctrines which were partially borrowed from Persia, partially independently developed—this dualistic conception of divinity has left its trace on many of the creeds of later Christianity. Nor has it lacked the approval of deep thinkers. John Stuart Mill, looking at religions from the outside, has maintained that it is the only doctrine which reconciles the presence of pain and suffering with the existence of a wholly beneficent deity.

Differences of Religions in Extension.—The fetich and the guardian spirit belong to the individual. They are his personal tutelaries and protect him against his neighbor. So the family gods, the Lares and Penates, were supposed to confine their wardship to the household. The gods of one nation were not those of another; indeed, they were supposed to be antagonistic, and when the opposing cohorts met in conflict on the earth, the native gods joined battle in the upper air. All primitive religions are thus local and personal or national. It was quite a step in advance when the Latins thought that in the Greek Herakles and Hephæstos they recognized their own Hercules and Vulcan, although in fact there were scarcely any points of contact.

National and World Religions.—National intercourse multiplied such pretended identifications; it was policy in conquerors to respect the religion of the conquered, as when Darius sent a hundred talents to buy the Egyptians another bull in place of their taurine god Apis which had died. Foreign divinities were imported, as was frequent in the later centuries of Rome. Priests, anxious to magnify the powers of the divinity they revered, claimed its identity with those worshipped in other nations; and philosophers, looking beneath the symbol to the general truth which it expressed, proclaimed that the power of the gods was coextensive with nature and man. These various opinions, joining ground each in its own sphere, tended to destroy the isolation of tribal and national religions and to pave the way for the universal or world religions—those which were aimed by their founders to spread over the earth and include all men.

Such a limitless claim involved several postulates which have profoundly modified the human race, and paved the way for the most sudden and vital changes in the history of mankind. It is evident that if any religion has a right to be the sole and universal one, it must have the monopoly of religious truth, and that compared with it all others are false, and therefore dangerous. Hence *intolerance* has been the trait of all world religions. In national religions it has found little place. Their votaries would say to the citizens of another nation, as did the Indian to the missionary, "Your religion is best for you; mine is best for me." Not so with those who claim the only truth. It becomes their

duty by every means in their power to extinguish all other creeds and rituals.

From this it follows that a world religion must necessarily be *proselytizing*. The duty of its believers is unfulfilled if they neglect to extend its sway by such means as they have at command. Whether by the sword or by persuasion, they must proclaim the truth which has made them free.

Freedom, indeed, within such a religion is as essential to its teachings as is absolutism without. The truth which is for the whole world must know no distinction of color or caste, of family or rank. As in the full development of government all men must be equal before the law (see p. 138), so in the theory of the universal religion all men must stand equal before God. What is wrong or right to one must in similar circumstances be wrong or right to the other.

As the truth is one, so the doctrine must be one and the same throughout a universal religion, at least in its essential features. This, however, it would be impossible to maintain, even in appearance, unless the doctrine were recorded in writing. Verbal transmission alone could never preserve its requisite uniformity. Hence all world religions must be *book* religions. They must have the record of the divine communication on which they can fall back to establish their unity.

Buddhism, Christianity, and Mohammedanism.—Such are the necessary features of all religions claiming universality. They are three in number—in the order of their appearance, Buddhism, Christianity, Mohammedanism, which is also the order of their success, measured by the number of their professed adherents. Taken altogether, they nominally include considerably more than three-fourths of the human race, and geographically they control nine-tenths of the earth's surface. Practically, therefore, they have driven from the field all tribal and national religions, and remain alone to struggle for the mastery.

By some writers their history has been explained as an ethnologic phenomenon, and it has been sought to account for their distribution by their relative suitability to different races. For this there seem no sufficient grounds. All three were founded by members of the white race—one, the oldest and the most widely extended, by the Indo-Aryan Buddha or Sakya Muni; the others by Semitic teachers. Buddhism counts equally faithful and active votaries in Ceylon and China, and both Christianity and Mohammedanism have supplanted many of the older faiths of Africa and Malaysia. Doubtless there are bitter animosities and mutual charges of irreligion in all three of these great creeds, as is illustrated in the Sunnite and Shiite schism of Mohammedanism, but they all agree in those traits which we have above described as characterizing world religions. However apart and contradictory the sects may seem, all Buddhists justify their doctrines from the Dhammapada, all Mussulmans from the Koran, all Christians from the Bible.

Mythology.—We have seen that the foundation of religion is a wish or hope, the fulfilment of which is believed to depend on some unseen,

supernatural being. The notions that man formed to himself about such beings, their names, their supposed doings and relations, constitute *mythology*. Myths are accounts of the gods. They are not stories spun by the fancy, nor fictions devised by priests to deceive the people, nor theories evolved by philosophers—each of which views has been at times advanced—but they are unconscious growths of the mind under the promptings of the religious sentiment.

The Study of Myths.—Their study is a most important branch of ethnology. In the opinion of many able writers, nothing more sharply characterizes a nation than its religion, and mythology is the expression of religion in language. "A people," says Schelling, "can only be said to exist when it has determined itself with regard to its mythology," and Professor Max Müller, in quoting this saying, adds: "It is language and religion that make a people, but religion is even a more powerful agent than language."

The study of Comparative Mythology, therefore, in its ethnologic bearings, closely approaches in importance the study of Comparative Linguistics. It teaches us the coincidences and contrasts of the intelligence of nations on those topics which lie nearest their hearts, and those great questions of the origin and destiny of man which even the rudest savage cannot wholly escape.

Influence of Language on Myths.—The study of language is an indispensable preliminary to the comparative mythologist, for, as we have said, the myth is the expression of religious thought in language, and the modelling and shaping action of language on the thought expressed is of the most extensive character, often leading to a complete concealment of the original idea. In so many directions does the plain, naked statement of the primitive myths

"Change
Into something rich and strange,"

through the transformations unconsciously wrought by the laws of language, that these as applied to mythology become the only keys to its mysteries. Some of the more prominent of these laws we may briefly enumerate.

The first and most general is that of *personification* (*prosopopeia* of the grammarians). By it an inanimate thing is represented as animate, as in the phrase, "The oak tosses his mighty arms against the sky;" or irrational beings may be spoken of as persons, as in the stories of Reynard the Fox. Even actions and qualities may be thus introduced as individuals, as in many characters in Bunyan's *Pilgrim's Progress*. As a resource for literary effect orators and poets have frequent recourse to this figure of speech; but in the early history of language and religion it led to the literal acceptance as a person of the thing or action so spoken of. When, instead of saying, "The sun rose," the savage said, "The sun left his lair," he had begun a myth of the sun as an animate being leaving his couch, somewhat as a beast his lair, etc.

Another linguistic peculiarity rich in mythological growth was the similarity or sameness in the sounds of words of different meanings (*paronymy* and *homonymy*). We have already referred to the effect of these peculiarities on the development of written speech (see above, p. 90). Suppose a name capable of several senses, as in the case with many root-words, was applied to a deity. At first there would be little liability to confusion, but in a few generations no one could remember in which of the senses it was originally intended, and a story would be invented suitable to each. This has repeatedly happened. In the Nahuatl language the root-word *coa* has three entirely different meanings—to wit, a serpent, a guest, and twins. Now, this word enters into the name of various divinities, especially of the Mexican culture-god Quetzalcoatl, and there were myths about him derived from each of these three disconnected meanings. Which of them was originally intended we cannot positively say.

When dialectic differences came to pass in a tongue, or when one nation only imperfectly caught the words of another, such transfers of myths and growths of new myths became yet more frequent. The old Romans heard the Greeks relate the beautiful and striking myths of Herakles, the sun-god, his twelve labors, and the like. Having a local god of their own with a name sounding something similar, Hercules, they transferred to him all this mythological apparatus, and added it to his original and far humbler story as that of the god of enclosed fields (*hercta*).

Proper names of deities proved stimuli to the myth-making faculties in another way. In the sense defined by John Stuart Mill there are no proper names in any primitive tongue. He says that such names must "as their characteristic property be *destitute of meaning*." There are no words, proper names or others, without meaning in such tongues. Such meaningless sounds are contrary to their character, and could not easily be accepted. Hence when by force or peacefully a foreign mythology is introduced, importing the names of foreign deities, the linguistic sense of the nation endeavors to assign these meaningless sounds a signification from some word resembling them in the existing speech. This accomplished, a myth inevitably starts up to explain and justify the meaning attributed to the imported foreign name. Thus, the very ancient Grecian deity Pan was at first a field-god whose name and cult were introduced from Asia Minor; his name had no meaning in Greek, but that tongue has a word of the same sound, signifying "the whole," "all." This led, in later days, Pan to be represented as *the whole* organic world, and in the "Hymn to Pan" he is sung as the child of Air and Water, Heaven and Earth.

Effect of Linguistic Structure.—The *character of the language* appears to react upon mythology. Tongues which are monosyllabic and isolating tend to a jejune and scanty growth of the religious imagination. The constructive elements which we have above noted have less play in idioms

of that character than in those which are agglutinative or inflective. This is illustrated in the exuberance of Aryan mythology compared with the poverty of the Chinese. Of the latter Professor Max Müller observes : "We find in China an ancient, colorless, and unpoetical religion—a religion that we might almost venture to call monosyllabic, consisting of the worship of a host of single spirits, representing the sky, the sun, storms and lightning, mountains and rivers, one standing by the side of the other without any mutual attraction, without any higher principle to hold them together." The Semitic languages, with their well-defined radicals, each of three consonants, were scarcely more favorable to imaginative theology. Although generally idol-worshippers and polytheistic, their mythology is barren, and their gods are rather lay figures representing some quality than the living beings which the Greeks delighted to portray. To quote again from Professor M. Müller : "The names of the Semitic deities are mostly words expressive of moral qualities ; they mean the Strong, the Exalted, the Lord, the King ; and they grow but seldom into divine personalities, definite in their outward appearance, or easily to be recognized by strongly marked features of a real dramatic character. On the other hand, we find the gods of the Aryan pantheon assume an individuality so strongly marked and permanent that with the Aryans a transition to monotheism required a powerful struggle, and seldom took effect without iconoclastic revolutions or philosophic despair. These three classes of religion are not to be mistaken, as little as the three classes of languages, the Turanian, the Semitic, and the Aryan. They mark three events in the most ancient history of the world—events which have determined the whole fate of the human race, and of which we ourselves still feel the consequences in our language, in our thoughts, and in our religion." The differences here brought out must be attributed more to the contrasts in the structure of languages than to any other one cause.

Influence of Natural Environment.—Undoubtedly, other causes were also at work in the building of mythologies. Of these, the *natural environment* has by some been deemed of great weight. The historian Buckle considered it the most potent of all, and undertook to show that where earthquakes and other violent and destructive exhibitions of the natural forces occur, the religious sentiment becomes excited and its imaginative creations more numerous. To a certain extent there can be no question about this. In proportion as men's lives and fortunes depend on the blind forces of nature they become superstitious. Sailors are notoriously so. Travellers in the Andes, where terrible thunderstorms are frequent, report the natives as overwhelmed with fright at their approach and resorting to all manner of charms and vows. The god of the tropical cyclone in the West Indies, by name Huracan (whence our word *hurricane*), was the chief divinity over a wide area. The earthquake and the volcano were intensely dreaded by the natives and placated by the cruelest sacrifices. Every year in Nicaragua maidens were selected from the vil-

lages and hurled alive into the boiling crater of the active volcano of Managua.

Every mythology bears the impress of the natural scenes in which it was developed. The nature-worship of the Greeks, with its thousands of tales representing the history of the rich vegetable life of their fertile and sea-bathed peninsula, was impossible in the arid and monotonous deserts of Arabia. The solar myths which the Indo-Aryans devised in the sun-smitten southern valleys would be incomprehensible to the residents of the Arctic zone.

Influence of National Imagination.—There is also a marked contrast between nations in the strength of their *imagination*. Some are story-tellers and poets from the cradle; others are sober and prosaic in all their conversation. The Mongolians as a race have little ideality, and their mythology is sterile. The ancient Italian religion was overladen with divinities, often with the most trivial distinctions; for instance, there was a god for ploughing the furrows straight, and another for cross-ploughing! But mythology there was none. The Oscan and Latin people were hopelessly prosaic. During her long history Rome never produced an artist of the first class, never a lyric poet that did not draw his inspiration from Greece. The creative power was denied to that nation, and the figures of its native pantheon are thin, vapid, and unreal.

CHARACTERISTICS OF SPECIAL MYTHOLOGIES.

Egyptian Mythology.—The religion of ancient Egypt held a middle position between that of the Semitic and Aryan nationalities. The central myth was that of Osiris, or, as he was otherwise called, Ra. The story told in many versions was that he was slain, and that the child Horus, aided by Isis, the wife of Osiris, brought him to life again. This myth unquestionably sprang from the soil of nature-worship. Osiris is the sun, or the sun-god, who may be said to die daily, and to fall a prey to the demon of darkness; but the night, represented by Isis, the moon-goddess, and the young dawn, the child Horus, again bring on the sun, another, yet the same.

This was the physical background of the myth, but before the earliest remaining monuments of the Nile Valley had been set up the myth had assumed an ethical signification. Osiris had become the type of man whose soul is immortal, and, though he seemingly die, yet shall revive again; and of organic nature, which, though it wither and fade away in the season of cold or drought, shall yet bloom again and carpet the earth with green. The unchanging life amidst the ever-changing phenomena was what caught and fired the Egyptian's intellect. This one central idea revealed itself to him, whether he meditated on the daily death and birth of the sun, on the recurring seasons, or on the annual ebb and flow of his great river. Hence his abstractest term for God was "He who ever renews himself;" and as the unity of life thus became manifest through the analysis of its infinite revelations, he reached a monotheism which,

though reserved for the illuminated, was none the less positive in its expression.

Aryan Mythology.—The Aryans pursued other paths and reached other conclusions than the nations of the Nile Valley. They were far more migratory; they were brought into contact with more varied surroundings; their language was more supple and ductile than that of the subjects of the Pharaohs. Though solar myths are common in their religions, the story of the sun had not a commanding position. The earliest Aryan god was the sky, the bright upper heaven, called Dyaus, Zeus, Jove. The contrast between day and night impressed itself broadly on them, not as the individual history of the sun-god. They lived in lands where the seasons contrasted sharply and the weather was marked by extremes. Hence many phenomena of little prominence in Egypt attracted their attention. The winds and the storms, the thunder and the lightning, the clouds and the rain, the fountains and the sea—all claimed and received recognition in their composite mythology. Their pantheon was filled with varied forms, its history rich in dramatic incident, its characters vivid and substantial. For the poet, the dreamer, the field was teeming with suggestive combinations.

But for religious philosophy it was sadly sterile. There was no such sense of all-pervading, ever-renewed life as we have seen in Egypt. On the contrary, the shadow of death lies like a pall over all the Aryan creeds. Not merely was there a dark hopelessness about the fate of the individual himself, but over the whole of nature—ay, over the bright gods themselves—there was creeping that black shadow of extinction. We see it in the gay Olympian gods who “stand chid before the eye of Fate,” and whose destinies are as fixed by the implacable Moiræ as are those of man; we see it in the Ragnarok of the Edda, the “Doom of the gods,” in whose murky twilight Odin and all his crew shall vanish; we see it in Persian myth, where beyond all the dust of the conflict of Ormuzd and Ahriman stands the unmoved and eternal Zeruana Akerana, before whom even these greatest of gods are but “children, sons of fleeting time;” and finally, in the Brahmanism of India, where Kala, time, is the infinite abyss which shall finally swallow gods, mortals, and matter alike.

Nor did Aryan mythology tend to lift its votaries from the slough of polytheism. We find most rarely any clear glimpse of that truth taught so positively by Mohammed:

“God is alone;
God is eternal;
Begetting not, neither begotten,
His like is not.”—*Koran*, Sura xix.

In these respects, in its feeble grasp on the notion of life and its failing conception of the unity of deity, we see how inferior were the Aryan mythologies.

American Mythology.—Most writers have spoken of American myth-

ology as a mass of confused and childish fables without coherence and with no leading principles. Researches, however, carried out in accordance with the methods of comparative mythology above laid down, have conclusively shown that, so far from this being the case, the myths of most of the nations of the red race thus far examined have a striking family character and indicate a well-marked growth of the religious sentiment.

The typical American myth, which is at the centre of all the developed religions of the continent, selected for its symbol of the highest divinity, not the sun, as did the Egyptians, nor the sky or day, as did the Proto-Aryans, but Light. This was personified under strictly human form as the early guide and teacher of their nation, often as their first ancestor and as the creator of the animate world. With striking uniformity the story of this culture-hero was told in many tribes—how he brought the cultivated food-plants and pointed out the herbs salutary as medicines; how he framed their social laws and established their religious rites; how he conquered the enemies which arose against them; and how under his mild sway their ancestors enjoyed peace and prosperity. When the time came for his work to close he did not die like ordinary mortals, but went forth, going on a distant journey, and leaving with them the promise that he should return at some future day and restore the happiness of that primeval time.

Often the myth represents him as born of a virgin, as being one of twins or of four brothers born at a birth, with whom he has long contests, and his birthplace is usually in the far east; and thither he journeyed when he forsook his chosen people under the pressure of some mighty motive which admitted no choice.

Like all primary myths, this was originally a plain narrative of natural occurrences. The culture-hero was the light which comes from the east—that is, from one of the two principal or four cardinal points of the horizon. So long as the light lasts man sees and learns; he can exercise his powers, and prospers. But the light born of the early dawn—in many mythologies spoken of as a virgin—is transitory. It is dimmed in the fading day as the sun sinks toward the west. The Egyptians represented the sun-god as attacked by Set, the midday, and by Apep, the darkening west, and finally slain. Not so the American mind. It did not acknowledge the triumph of death. At night the light has, indeed, gone, but it will return; its rays will again shine forth from the eastern sky, and man shall rejoice in his strength and knowledge. When, in the course of time, the natural basis of the myth was lost in its personifications, when the story of the light was regarded as the narrative of an actual occurrence in remote history, the hope of a return of the happy days took a concrete form, and the nations expected a restoration to some condition of supposed pristine joy. As among the brown men of Egypt and among the dark-haired, swarthy Greeks the god of light was represented of fair complexion and with flowing golden locks, so among the Red Indians of America,

who had never seen a member of the white race, these culture-heroes were usually spoken of as fair in hue and with abundant flowing hair and beard. These were the types of the white light and its widespreading rays.

If we put to the American religions the same inquiries that we did to the Aryan and Egyptian myths as to what they teach of Life and God, they have an answer different from either of the others. The full acceptance of death as the portal to renewed life, which the worship of Osiris expresses so plainly, or the recognition of death as the inevitable end of all, gods and nature and man as well, which is the dark background of Aryan mythology, was alike alien to the native American mind. It did not allow the existence of death at all. What we call death they taught is but a change of the sphere of activity. The soul lives and passes on to the "happy hunting-grounds," to the land of the sun, thence to return to earth in human or other form, or it may pass directly into another being. The early missionaries and travellers noted all over the continent the prominence of this vitalistic faith. "The belief the best established among our Americans," wrote the Jesuit missionary Charlevoix early in the last century, "is that of the immortality of the soul." It was understood in a direct and material sense. La Hontan tells us that among the Abnakis, when some distinguished chief was dying, the women of the village gathered around that his spirit might pass directly to their wombs and be born again in their offspring. Among the Kolushes of the north-west coast, when an aged native is suffering from the infirmities of years, he will ask to be slain, in order that his soul may enter some unborn child and enjoy youth again. Gager relates that the Zacatecas and other tribes of Mexico hoard and conceal every piece of silver they can earn, nor can the threats of the priest nor the tears of their families induce them, even in their dying moments, to disclose its whereabouts: they are so certain of a return to life on earth after a short period that they resolutely determine to save their treasure for their wants at that time. Scores of such examples prove that the idea of death in the sense of the total cessation or extinction of life scarcely existed in America.

The conception of the unity of deity was not easily developed from the character of American mythology, and was opposed by the prevailing structure of American languages, which usually associate the idea with numerous accessories (see p. 87). Yet there are distinct traces of its gradual approach in the Aztec prayers as preserved by the missionary Sahagun. A god is addressed as the sole creator and governor of the universe, the one master of life, etc.; but this is to be explained by what Professor Max Müller calls *henotheism*—that is, the mental process in which the idea of any one divinity fills the mind of the votary to the temporary exclusion of all others, a supremacy, however, which is merely conceded by the passing emotions, not permanently recognized by the intellect.

Probably the only clear recognition of the unity of divinity to be found on the continent was among the Peruvians, and there it is as evident, certainly, as in the esoteric doctrines of the ancient Egyptian priests. The more intelligent natives of Peru worshipped their divinity of light, Viracocha, as the creator of all things and as the sole, ever-present, efficient god; he alone answered prayers, he alone helped in time of need. All prayers to the sun, to the deceased kings, or to idols were directed to them as intercessors and mediators only, not as independent deities. This is clearly stated by several of the best-informed and earliest writers on Peru.

Parallelisms in Mythology.—It will be seen that the three extensive mythologies which are compared above in a few of their salient traits are founded upon closely related natural occurrences—to wit, the diurnal change from day to night and the weather. These interested primitive man deeply, for they intimately concerned his comfort and his daily life. Hence they were very widely introduced into his mythologies. This similarity of origin led to marked analogies in the subsequent development of his myths, which is the more important to note and to allow for, as not a few ethnologists, misunderstanding the nature of such analogies, have brought them forward as proving some historic relationship or community of descent between widely-remote nations. An inference to this effect must be drawn with the utmost caution, and, standing alone, cannot be accepted as of any weight in ethnology. The human mind is so much the same in all races, and in its progress proceeds in paths so nearly parallel, that frequently the results of its labors are almost identical, although no historic contact is credible. Such similarities meet the reader at every turn, and are to be construed as proofs of the psychologic unity of the species, not as pieces of historic evidence.

Examples from Greek and Aztec Myths.—To select one out of the many examples which are at hand, we may compare the opinions entertained by the Greek Aryans as to the fate of the soul after death with those accepted on the same subject by the Aztecs of Mexico.

The Greeks taught that after death the soul descended into a realm below the surface of the earth, whose ruler was Hades, which means "the all-receiver," as, at last, death gathers all that exists. The entrance to this realm was guarded by savage dogs, which the soul must pacify if it would pass beyond. Beyond these guardians stretched a broad desert which the soul must cross in order to reach the shores of the river of the under world, sometimes spoken of as Acheron, and often referred to as divided into seven or nine branches. The silent ferryman, Charon, received such as had been provided at death with an obolus to pay their fare, and this coin was carefully buried with the deceased. The river crossed, the soul appeared before its judges, who either condemned it to wander in darkness or sent it onward to the Elysian Fields.

The Aztec realm of the dead was also in an under world, ruled by Miclantecutli, "the lord of those who are slain," or have died. Its entrance

was through a narrow defile where lay in wait a serpent and a huge lizard, which the soul must coax into good-humor. Beyond lay deserts and steep, cold mountains, and at their farther limit a broad and dark stream called "the Nine Rivers." To cross its current in safety the soul must cling to a red dog, and to provide such an animal and solemnly slay it at the grave was an essential feature of the Aztec funeral ceremonies. On the other bank the location of the soul was settled, principally by the manner of death, some passing to "the Nine Abodes of the Dead," and others to the paradise, Tlalocan, where they remained for a few years and then returned to life among men, chiefly in the form of singing-birds.

The similarities between these two myths are not accidental, neither are they historical, but are the results of the mind acting in parallel lines of thought on the same materials.

Religious Doctrines.—Besides the general form of a religion and the creations of its mythology, the theoretic doctrines which it teaches often wield an imperious sway over the lives of its votaries and decide the actions and destinies of nations. Such doctrines seem also at times to be the outgrowth of the national temperament, and their extension is largely governed by racial peculiarities. Hence they merit the attention of the ethnologist as much as that of the historian. A few of the most prominent of these doctrines may be mentioned.

The Doctrine of a Soul.—As already said, the belief of a life after death is not essential to religion (see p. 144). In many, where it exists in a shadowy form, it is not an efficient motive of the religious life. A tribal religion, like that of the ancient Israelites or of the Romans, limits its thoughts and plans, its rewards and punishments, exclusively to this life. Neither Confucius nor the founder of Buddhism taught the immortality of the soul. The former when asked about it replied: "There is no present urgency about the matter. If the dead live, you will find it out for yourself in time." Sakya Muni, though he devised a theory of transmigration, ended it in Nirvana—Nothingness—as its goal.

Ancestral Worship.—On the other hand, memory in waking hours and dreams during sleep persuaded men very generally that those they had known had not passed away for ever. Their interests had not ceased and their influence was not lost. Hence arose that frequent form of early religion, *ancestral worship*. Although by no means what Herbert Spencer has called it, "the universal first form of religious belief," it was early and it was widespread. How early it appeared among the ancient Romans, and how deep-rooted it is to-day throughout the millions of China, need not be insisted upon. Its traces occur in the rudest races. A Tasmanian who had been taken captive and made his escape attributed the success of his flight to the aid of his father's spirit (Bonwick). The Caribs, Nanticokes, and other American tribes cleaned the bones of their ancestors and carried them along in their migrations, believing that thus the ancestral spirits would accompany and protect them. The Crees, who lived on Nelson River in Canada, were accustomed to strangle their aged

parents, but their most sacred fetich was a bunch of feathers called their "father's head," and which represented his spirit (Robson). Much of the Peruvian ritual consisted in prayers and ceremonies addressed to the ancestral spirits; and the Australian *kobong*, the American *totem*, often seems to be the spirit of the traditional father of the clan.

Influence of Belief in Immortality.—The confident belief in immortality possessed by some nations has profoundly modified the course of history by giving them a contempt for death which assured them the victory in conflict with those of feebler faith. The ancient Germans had a most vivid belief in the life hereafter. They *knew* that those who died the "spear-death" on the field of battle would at once be transported by the Valkyrie to the hall of Valhalla, where they would quaff the foaming mead with the great heroes who had gone before. So real was this expectation to them that they would lend money to be repaid when debtor and creditor should meet on the Aesar-field (Holtzmann). As Gibbon remarks, the early Christians "were animated by a contempt for their present existence and a confidence of immortality, of which the imperfect faith of modern ages cannot give us any adequate notion." So likewise Mohammed succeeded in instilling into his followers such an unquestioning faith in their immediate transfer at death to the joys of heaven that they entered the battle with the certainty of winning either one of two equally glorious prizes—victory or Paradise.

Against men and nations under the control of doctrines of this character, the sceptical Greek, the materialistic Roman, and the effete Persian were as certain to succumb as though their downfall had been written on their temples by a divine hand.

Doctrine of Fatalism.—The doctrine of *fatalism*, or predestination, was familiar to the Greek mind, and was advocated by Lucretius as a philosophic theory, but as a religious doctrine received its complete development at the hands of Mohammed. It seemed to him a necessary deduction from the doctrine of an omnipotent and omniscient Deity. Its effects on human action are complex. While fostering disregard for danger and fortitude under suffering, it lames endeavor, arrests progress, and breeds indifference. Where it is deeply rooted in a community intellectual advance becomes impossible. For this reason the Mohammedan nations are, and always must be, unprogressive themselves and impediments to the progress of their neighbors.

Doctrine of the Unreality of Phenomena.—The *unreality of phenomena*, a doctrine deeply centred in the teachings both of Brahmanism and pure Buddhism, is not less fatal to national growth. Its philosophical basis rests on the distinction between the absolutely and the relatively true—an antinomy which profoundly impressed the Oriental sages. Their solution of it in favor of the absolute led them and their disciples to a contempt for the events and existences of this world as mere appearances, vain shows, "for man's delusion given," fleeting ripples on the infinite sea of life. The sage, they taught, interested himself not in such transitory

things, but sought utter repose, the *shanti* of the Brahman, the *nirvana* of the Buddhist.

This doctrine is obviously disastrous to individual and national culture, and therefore the energetic nations of Western Europe have more sympathy with the latest of all religions, which takes the other horn of the philosophic dilemma, and under the name *Positivism* denies altogether that there is such a thing as absolute truth, and sets up as the object of its cult the purified social instincts of humanity.

The Priestly Class.—The cultivation of the religious sentiment has led in all communities to the formation of one of the most powerful classes in social life—the priesthood. Among nations of the lowest status we find this vocation represented by the shamans, magicians, or “medicine-men.” They claim to be the intimates of the deities, to be able to modify their decisions with reference to human affairs, to be gifted with the power to foretell the future and the knowledge of the cure of disease. In many nations they thus exercise the functions of the physician, the priest, and the fortune-teller. This is the case with the Australian sorcerers, with those among the Lapps, with the shamans of Asiatic Russia, and with those of the Karens of Indo-China. Quite early, however, these functions become divided. Among the Algonkin Indians there are different ceremonies and different professors for curing and causing disease—the two go together—and for bringing rain, foreseeing events, charming animals, and such purely supernatural procedures. The traveller Cavazzi describes the subdivision of the priests among the Negroes of the Congo River. Some of these give their exclusive attention to ensuring their patrons against the effects of lightning; others predict the termination of maladies; others protect the growing crops against worms and animals; others prepare charms which guard the granaries against the devastations of rats and mice; others are ready to discover the whereabouts of lost articles and the localities of buried treasure; others possess the ability to confer success in the chase; and so on.

Power of the Priests.—It is instructive to observe how the whole lives of many of these Negro tribes have been brought under the domination of the priests through the assiduous cultivation of their superstitious tendencies. The site of a hut must not be selected until the sorcerer has pronounced the spot favorable, and a lucky day must be chosen for laying the foundation. When the building is completed a ceremony must be performed to drive away the evil spirits before the residence is occupied. Every event of importance in life, as marriage, pregnancy, birth, the entrance to the age of puberty, setting out on a journey, and the like, demands the assistance of the magician.

Armed with such powers, it is not surprising that in some instances the priests have attained a degree of control which throws into the shade the most absolute of monarchies. In some of the tribes near Fernando Po the high priest selects and anoints the king and instructs him as to what line of action he is to take in all affairs of moment. Certain poisonous

serpents which are kept in a pit are supposed to be the advisers of the holy man, and to transmit to him the will and decrees of the gods, of whom he represents himself as merely the minister and mouthpiece. But the *chitome* or chief priest of one of the Congo tribes illustrates most vividly the sacerdotal power. He is revered not merely as an agent of divinity, but as divinity itself. He sends the harvest and the rains, and can withhold them; the life and death of the people are in his hands; therefore no one strives with him, and if he strikes or slays a person no one dreams of holding him accountable; the king undertakes no act of war or diplomacy without his consent, and every appointee to a post of trust or profit must first have the approval of the *chitome*; nor does he give this as a matter of form: the aspirant must prostrate himself in the dust and weep and cry, and especially he must bring presents fully commensurate to the profits he expects from his position, before the haughty priest will, after kicking and otherwise maltreating the suppliant, finally accord his assent.

In some nations the kings have claimed for themselves the highest prerogatives of the priestly function. This is the case with the king of Loango and others in Africa. In America a marked instance was the Inca of Peru, who was head of the sacerdotal as well as the civil government. This at times brought with it inconveniences. In one of the tribes of the Upper Nile the king is also high priest and rainmaker-in-chief. He is supposed to summon the clouds by whistling for them. But he must exercise this function with due caution, for if he whistles for them and they come not, he is looked upon as an usurper and is forthwith led out and knocked on the head.

For many dynasties the priesthood of ancient Egypt was wholly subservient to the ruling king, who was its acknowledged head and recognized as the vicegerent of God on earth. This union of powers was one of the strongly consolidating features of the Pharaonic government. When about the twentieth dynasty the function of the priests became hereditary in families, and the sacerdotal class separated from the laity on the one side and on the other became independent of the royal control, with officials of their own, a change had been introduced fatal to the permanence of the royal house and highly injurious to the culture of the people at large (Tiele).

Mysteries and Secret Orders.—In all instances the weight of a priesthood is cast in favor of exclusiveness and conservatism. The priests claim to possess private knowledge and powers, which they naturally seek to keep from the profane multitude. This led to the establishment of secret orders, learned guilds, and mysteries. Those of Eleusis, patterned largely on Egyptian models it is believed, are familiar to all readers of the classics. Similar organizations are found in the rudest tribes. The Algonkin Indians have their "Big Medicine Lodge," which introduces the neophyte to mysteries doubtless quite as impressive as those at Eleusis. The Dakotas have a number of secret societies presided over by their tribal sorcerers,

each supposed to have knowledge of a number of roots and plants and other substances possessing magic power.

Religion and Self-Culture.—In this brief summary of the main features of religions we have incidentally referred several times to the part they have played in the history of national culture. We shall now sum up with equal brevity the various influences which are at work in every religion, no matter how rude, tending to foster the growth of the better nature of man.

Influence on Self-culture.—In one of his pregnant lines the poet Tennyson sums up the forces of individual culture in the words "self-reverence, self-knowledge, self-control." All religions demand at least the last of these, and none more than those of the rudest stamp. The Eskimo, the Indian, or the Laplander who would secure for himself a guardian spirit must seek some deep solitude, and deny himself food and drink until lack of nourishment disorders his brain. The initiation to the religious mysteries of savages is usually connected with self-torture of the severest kind, which must be borne without a murmur. In the Aztec temples there was always provided a store of the sharp thorns of the maguey, with which the votaries were expected to pierce their ears, tongue, lips, and other sensitive parts of their persons. Those who aspired to the priestly office carried this self-mortification to a ghastly extent. A bas-relief discovered by Charnay in one of the Yucatan cities represents the priest passing a jagged rope through his tongue. The priestly vocation frequently laid restriction on the sexual life of its members, the males vowing chastity, the females seclusion; while the restrictions on marriage within the clan, in its origin of a purely religious nature, taught the savage to govern his desires in this their most uncontrollable direction. Although in themselves these acts of self-denial were generally absurd, they taught the inestimable lesson of self-government, and it came to be transmitted as an acquired element of culture to later generations.

Religion and National Unity.—As has been shown, most primitive religions are tribal, and the chief gods are the ideal representatives of the clan. In uniting to pay them homage all the members of the community tacitly repeat their acknowledgment of a solidarity of interests and blood. The stranger who is taken into the tribe becomes a member of it by worshipping at the tribal shrine. "Thy people shall be my people, and thy God my God" (Ruth i. 16), was in effect the formula of all adoptions. The religious festivals which collected the scattered members of the band together at stated times maintained the alliance of blood and the recognition of common interests. The feeling that a nation should be under some one divine patron, who should be to it both a guardian of its folds and a defender of its cause, lived long after Christianity had become the prevailing religion of Europe. The war-cries of "St. George for England!" and "St. Denis for France!" rang out on many a stricken field

"When spears were down,
And steeds were white with foam."—ARNOLD.

Religion and the Respect for Law.—The very absurdity and unreasonableness of many of the mandates of early religions had an educating effect on the rude populations to whom they were addressed. It taught them the habit of passive and prompt obedience to law, and thus formed a habit of mind essential to the preservation of the civil state. The *taboo* which the priest of the South Sea islands would lay on certain articles of diet, on places, even on the utterance of particular words, had to be observed on pain of death, and accustomed that race to a circumspect regard for edicts of all kinds. Legislators and magistrates have in all ages perceived the aid in the administration of justice which they can obtain by calling to their assistance the religious sentiment. Their main object being to reach the facts of a transaction, they have very generally brought in some religious solemnity to compel witnesses to speak the truth, if not out of respect to the human, then for the sake of divine, law. They may be of the most varied character: the Siberian Ostyak will bite a boar's head; the Chinaman will cut off the head of a live chicken; the Brahman will take to witness the holy river Ganges; the Scotchman will raise his open hand toward the sky; the Englishman will kiss the cover of his sacred book: all these, and a hundred more intrinsically absurd and purposeless customs, are means of calling the wrath of the gods down upon the speaker if he tells either more or less than truth. They all indicate how law avails itself in some of its most valuable functions of the aid of religion.

Religion and the Literary Faculty.—The oral memorials of uncultivated nations are far more frequently occupied with the fancied doings of the gods than with the chronicles of past time. The primitive poets draw their inspiration rather from the rewards they expect to gain from chanting the praises of the living gods than in recalling the deeds of prowess of departed heroes. The formulas and rituals of worship had an inherent sanctity, and had to be repeated precisely according to precedent. These considerations became the motives for the establishment of methods and schools of literary culture. Such are found in all ages and strata of civilization. Cæsar states that the noble youth of Gaul were sent across the Channel to Albion to be educated in the far-famed Druidic colleges there. They were principally instructed in religious verses, of which they were obliged to commit to memory many thousand. The Zuñi Indian who would be admitted to one of the religious orders must be able to repeat a mystic chant several hundred lines in length, observing accurately the intonation and archaic forms of the words. The Aztecs had long orations, prayers, and poems, which were taught by the priests in colleges called *cal-mecac*, and were delivered on solemn occasions and in the various festivals.

To put these on record was one of the earliest motives which led to the invention of a system of writing. Like the Egyptian, most of the earlier alphabets start with a hieratic script. The oldest documents extant are the books of the divine commands as accepted by one nation or another, and much more than half of all that has ever been committed to writing by human hands has been in the nature of explanations, glosses, commen-

taries, versions, or discussions about these books. We have but to recall the enormous mass of literature which centres around the books of Lao-tse and Confucius in China, of Sakya Muni in Ceylon, Thibet, China, and Japan, of the Avesta in Persia, the Veda in India, the Koran in Mohammedan countries, and the Hebrew Bible and Greek Testament in the nations of Christendom, to perceive how active and ceaseless has been the training of the literary faculties by the demands of these eight leading book-religions, which are, after all, but a portion of the literary religions of the globe. To this should be added the stimulus imparted to the study of language by the preservation and necessary analysis of the archaic forms in these records; the schools, universities, and learned orders or societies founded for their exegesis; the translations of them into other tongues either for the sake of proselytizing or of polemics; the fact that printing, like writing, was first invented for the purpose of disseminating religious works; and many allied facts of this nature,—and we cannot fail to acknowledge that religion has contributed most potently and in all its stages to the intellectual development of the race.

As a Teacher of Ethics.—The position has been assumed by most ethnologists that there is no necessary connection between religion and morality, and that the faiths of the lower races have not as a rule or at all acted as a lever lifting them toward a higher ethical life. This must be regarded as a hasty and unwarranted conclusion. It is true that most of their teachings seem to our enlightened minds either indifferent or destructive to morality. But that is an unjust measure to apply to them. The education of the conscience is in itself a great deal, and even if its commands are barbarous, as when it requires the Hindoo widow to mount the suttee pyre and be burned alive with the corpse of her husband, the strong sense of duty there apparent is in itself an ethical education.

When, as is the case with many even primitive religions, there are beneficent as well as malicious deities, the reverent gratitude which inspires the worship of the former is calculated to develop the benevolent emotions generally. We may be sure that religion would not so early and in so many instances have become associated with government had it not been observed that the duties of man to man within the tribe gained in observance through this connection.

Finally, the ideals which religion is wont to hold up to its votaries for admiration and imitation are usually the personification of what the national mind thinks loftiest, noblest, best; and it is incredible that a nation should ever strive to imitate that which is its best and not actually grow toward something which is really better. Such ideals are by no means confined to the faiths of cultivated nations. They are not represented only by the worldly-wise Confucius, the austere, self-centred Sakya Muni, the ardent, God-intoxicated Mohammed, and the other founders of the great religions of the world; they are as well characterized and appear with not less noble features in the forests of the New World. The Aztec culture-hero Quetzalcoatl may be taken as the type

of many of them. He was represented as the patron and instructor of artificers in stone and metals and feathers; in life he was chaste and temperate, judicious in council, generous of gifts, kindly to the weak, opposed to wars and to bloody sacrifices, a framer of wise laws and merciful in their enforcement. This was the ideal which their religion held up for imitation to millions of the inhabitants of ancient Mexico. Could it be possible that such an exemplar, framed by the religious dreams of the race, did not elevate its moral sense? Such a conclusion would be contrary to all we know of human motive; and the verdict of the early missionaries was with all positiveness that the people who had this religious ideal was a nation of decidedly high ethical practices; as one of these witnesses says: "A good people, attached to virtue, urbane and simple in social intercourse, shunning lies, skilled in the arts, pious toward their gods" (Sahagun). We must acknowledge, therefore, that in all its grades and forms religion aids in training the sense of duty, in cultivating sentiments of gratitude, and in enforcing to a greater or less degree the enactments of morality.

CIVILIZATION AS THE RESULTANT OF ETHNIC DEVELOPMENT.

Were we to select any one of the elements of national life which we have been considering—the food-supply, the sexual relation, government, religion, arts, or language—and study in detail the part it has played in raising man from a savage to a cultured condition, we should be apt to think that it alone had been the efficient cause of his improvement—that it alone is the golden strand in the cord which has lifted nations from the unconscious abasement of their primitive state to the conscious enlightenment of the present age. But a broader study of the nature and the history of man will correct this impression; ethnology will teach us the error of those who, dazzled by the power of some one faculty of mind, have attributed to it alone the progress of the race.

All the faculties and all their expressions are to a great degree correlative. Each demands for its cultivation that the others shall not be neglected. Those who dream that all the ills of society are to be cured by a perfected social rule will be shown not less in error than those who see in the arts—the useful or the fine arts—the one guide through the labyrinth of life; and both will be led into an equal fallacy should they believe that the time has come, or ever will come, when the cultured nations of the world may profitably dispense with religion. All these represent and are the expression of essential parts of the psychology of the species; only by their symmetrical development can a nation advance, in accordance with the laws of progress, up to a complete civilization.

Definition of Progress and Civilization.—These words, *progress* and *civilization*, may with advantage arrest our attention.

Persons often speak of the "Law of Progress" as if it were one of the fixed laws of nature which the race is bound to follow. There is nothing to justify this view. Some nations are progressive, some are not; some

ages have witnessed a rapid growth of man's powers, others have seen them withering. Neither history nor ethnology authorizes the assumption that man will continue indefinitely to advance in his conquests over nature. On the other hand, geology points out many species which have manifested extreme viability for a period and extended themselves over wide areas, and then by some change of conditions or in themselves have lost this energy and have become wholly extinct. Chemists inform us that a very slight change in the constitution of our atmosphere would work disastrous consequences to our health and life. Such considerations teach us that it is quite unscientific to assume an indefinite continuance of advancement for the race. We should content ourselves in the study of the past, and discard applying its lessons to any distant future.

In its historic sense we may define progress to be the development of the energies and resources of a nation, and the condition of civilization to be where all these energies and resources are developed symmetrically and to a high degree.

It is evident from this definition that we cannot separate civilization from those conditions which approach but fall short of it, by any sharp distinctions, by any hard and fast lines. The process is a growth, whose separate stages blend one into the other, and do not permit us to put our finger on a dividing-line, and say, On this side is civilization, on the other is its absence. Nevertheless, the recognition of *stages of progress* is so indispensable to the ready understanding of History and Ethnography that they have very generally been adopted in both these sciences. They have been based on different features of social life, usually either on (1) the artistic development, (2) the mode of subsistence, or (3) on the general condition. Nations in almost all these stages exist at present on the earth, and there is not the slightest doubt that even the most civilized began at the lowest; and this not very long ago, compared with the epochs of geologic time.

I. THE STAGES OF PROGRESS.

Stages of Artistic Development.—Scientists have selected as the most available test of the advance of industrial art the material most commonly in use in a nation or epoch *for the manufacture of cutting instruments*. For reasons which will be obvious, all sorts of handiwork bear a close relation to the facility with which material can be divided; hence the propriety of this selection. These materials have been three in number, and give rise to the divisions into

1. The Stone Age;
2. The Bronze Age;
3. The Iron Age.

I. THE STONE AGE.

As has been mentioned on a previous page (96), the period when man had no better implements than he could manufacture out of wood, stone, or bone appears to have extended over most of the earth's surface for a far greater length of time than has elapsed since the discovery of

metals. It has been divided into two parts—the first, in which chipped stones exclusively were employed, being known as the *Palæolithic*, or Older Stone Age; the second and later, when many of the implements were finished by grinding and rubbing them to a smooth surface, receiving the name of the *Neolithic* Age, or that of Polished Stone (*pl. I, figs. 10, 12*).

No nation has been known to scientific observation which corresponded to the condition of life in the palæolithic period. That age was contemporary in Europe with the time when the cave-bear, the mammoth, and later the reindeer, inhabited the forests of what is now France and Germany. Instruments quite characteristic of it have been exhumed in Spain, Portugal, and both Northern and Southern Africa. The vicinity of Cairo in Lower, and of Luxor in Upper, Egypt has disclosed them. In Palestine and in several locations in India explorers have come upon them, while in America the Trenton gravels, the glacial deposits of the Upper Mississippi, the California gold-bearing deposits, and the mud-beds of the Pampas have all furnished chipped stone implements of the character of those of the palæolithic beds of Europe. Of course, others like them have been found in later strata, but the peculiarity of palæolithic “finds” is that no polished implements are discovered with them, and their forms are always few in number and simple in design.

From a study of such specimens it is deduced that in this, the earliest and universal condition of the human race, its members were exclusively hunters or fishermen or subsisted on natural products; agriculture was totally unknown, and no animal, not even the dog, was domesticated; religion and government, if they were organized at all, were of a lower, more imperfect character than any now known to us. Buildings were mere temporary shelters, leaving no trace upon the soil. The population was scanty and little inclined to wander beyond limited precincts.

But even then the traces of positive and constant, although slow, progress are clearly visible. In the oldest stations of the Palæolithic Age there is not found a trace of ornament nor a sign that the tribes then living knew the simplest of the mechanical powers. In the later deposits we discover small stone mortars, evidently used for mixing paints for the body; fragments of peroxide of iron which yield a red coloring-matter, and which have seen service; teeth of animals, shells, and bits of horn, perforated and plainly destined for ornaments; needles and awls of bone, indicating that clothing was made and worn; a few rude figures cut from horn, and others engraved on fragments of bone; and the like,—all going to show that by that time there had grown up a fixed society and a taste for decorative art. Such a people could have been little inferior to the lower tribes of savages of the present day.

The *Neolithic* Age was introduced into Western Europe apparently by an incursion of tribes from the east or north-east. Its appearance is signalled by a superior variety of stone implements, frequently polished; by the traces of agriculture, the rearing of domestic animals, the art of making clothing from vegetable fibre by spinning and weaving, the

manufacture of pottery, and such simple arts. The inhabitants at that time corresponded in point of culture about to the Indian tribes of the United States at the era of the discovery. They lived in towns and cleared the forests. The oldest of the lake-dwellings, built on piles in the water, occurring in the Swiss lakes and in the plains of the Po, belong to this period and stage of development. (See *STONE AGE* and *illus.* Vol. II.)

2. THE BRONZE AGE.

Although many implements of pure copper have been exhumed both in America and the Old World, that metal is too soft in its pure state ever to have been of much value as a material furnishing a cutting edge, and hence it added little to man's power over nature. When, however, copper is fused in an alloy with tin, forming bronze, or with zinc, forming brass, the product acquires a very firm texture and is well adapted for tools and weapons. Both these alloys were known in the Orient in the dawn of history, but bronze was that which came most extensively into use.

The Egyptians were well acquainted with the use of bronze at a period coeval with their earliest monuments. They manufactured it into weapons of war and tools for various trades, and succeeded in devising processes to give it exceeding hardness. Their principal source for copper was among the mountains of the peninsula of Sinai, and the mines of Wady Magarah in that locality are thought to have been worked as early as the second dynasty, which was more than three thousand years before the Christian era. Where they obtained their tin has not yet been ascertained.

The Assyrians and Babylonians of the earliest historic ages were also familiar with bronze, and it is probable that from them the Egyptians derived their knowledge of it through the Semitic merchants.

This is the remotest date to which we can trace the knowledge of the alloy. If we interrogate through linguistic analysis the condition of the Proto-Aryans, we find them wholly in the Stone Age at the time of their separation into European and Asiatic Aryans. They were, indeed, acquainted with native copper, and probably occasionally hammered it into ornaments or ceremonial weapons, as did the Indians around Lake Superior; but they were equally ignorant of smelting or alloying it. The terms for all the paraphernalia of the smithery and all working in metals are quite different in the great groups of Aryan languages, proving that these arts were developed independently after their splitting up into various nations (Schrader).

The Greeks in the days of the Homeric poems were already skilled workers in bronze, and so doubtless were the Trojans, although Schliemann found the oldest remains on the hill at Hissarlik to be entirely of the Stone Age. The Greeks did not claim to have discovered the alloy, but acknowledged to have received it from those mysterious ancient nations of considerable culture in Asia Minor, the Lydians and Phrygians. They could not assign a date to its introduction, but agreed that

it was very remote. In Italy also, among the Etruscans, it was, at an indefinitely ancient date, the common material for cutting instruments.

From Greece and Italy the use of bronze extended northward along the great trading-lines. The oldest specimens in the remains of the Swiss lake-dwellings have been assigned by some archæologists an antiquity of three thousand years before the Christian era, although generally not more than about two thousand are allowed for the commencement of the Bronze Age north of the Alps. In that period the extension of even such a useful art was slow, and it is quite consistent with this date that Mr. Evans does not consider the Bronze Age to have begun in Great Britain much anterior to 1400 B. C. The knowledge of the alloy may have come through the Carthaginians, who about that time began their trading voyages to the southern coast of England, the chief merchandise they were after being the tin of Cornwall, which they employed in the manufacture of bronze.

In America the Bronze Age was well represented in Mexico and Peru. The natives of both these countries were well aware of the hard alloy resulting from the admixture of copper and tin, and employed it largely for tools and weapons. In Mexico copper is abundant, and tin was obtained from the mines in the province of Tlatchco, where that metal was so plentiful that it was employed as a circulating medium. Along the coast of Peru bronze agricultural implements are found in vast numbers, and have for generations been collected and sold to dealers in old metal "by the ton" (Squier). The alloy was run into thin but stiff plates, and the instruments cut from these and ground to a sharp edge. Bronze swords, daggers, knives, and lances are seen in collections from these localities. (See BRONZE AGE and *illus.* Vol. II.)

3. THE IRON AGE.

The most useful of metals, iron, was known to man long before he attained the art of manipulating it to his advantage. In the mounds of the Ohio Valley antiquaries have discovered thin sheets hammered out of meteoric iron and applied as a coating to ornaments (Putnam). Tubal Cain, who in the book of Genesis is put as the seventh in descent from Adam, is mentioned as "an instructor of every artificer in brass and iron;" and the book of Job, also one of the most ancient of Hebrew records, speaks of "iron taken out of the earth" as one of the metals then in familiar use.

In view of these quotations, we shall not be surprised to learn that the Chinese annals state that iron supplanted bronze for swords in the reign of Kung Kin, 1897 B. C., or that many years before that date the Assyrians manufactured numerous tools of iron. Although the Egyptians knew the metal and sparingly employed it in their arts, they preferred bronze, and it was not till as late as about the seventh century B. C. that the latter can be said to have been supplanted. The Semitic peoples were quicker to see its vast utility, and all of them have a common term

for iron, *barzel*—Arabic *fir-zil*—showing that they had known and named it before their primitive stock separated into the later branches. From the latter form of it, *fir-zil*, in the opinion of some etymologists, is derived the Latin word for iron, *ferrum*, which would indicate that the primitive Italian tribes learned the use of the metal from the traders of the Phœnician or Carthaginian ports. In the days of Homer the use of iron was just commencing, most of the weapons the poet names being specified as of bronze; but in the age of Hesiod iron had become cheaper than bronze, and was employed much more widely (Gladstone). From an investigation of the older Greek writers it has been deduced that iron was known in that country ten or twelve centuries before our era, although it long continued a rare metal; by the fifth or sixth century B. C. it had practically superseded bronze both for tools and weapons (Evans).

The metal soon extended into Northern Europe. Linguistic evidence indeed shows that it is probable that the Letto-Slavs and Celto-Germans of the North learned to forge iron before they became acquainted with bronze (Schrader). The German warriors who destroyed the legions of Augustus were armed with iron swords, and their lances were tipped with the same metal. The Cotti, on the right bank of the Rhine, had the metal in abundance, and Julius Cæsar describes the Gauls of the north of France and of Belgium working large iron-mines by tunnelling. He also mentions ingots and rings of iron as in use for money among the Britons of his day. The Iron Age in Western Europe must have begun, therefore, two or three centuries before our era.

Although, as has been already mentioned, the American tribes were not entirely ignorant of iron, and even hammered it into thin sheets for decorative purposes, they never learned the arts of smelting and forging it, and therefore made no practical applications of it. Neither was it within the acquisitions of the Australians. But in Africa it has been everywhere employed from the earliest times of which we have any knowledge. The tribes of the Soudan, the Caffirs, even the Hottentots and Bushmen of the southern extremity of the continent, are now, and have been for time out of mind, perfectly acquainted with the exploitation of ferruginous ores, with the forging of weapons and utensils with a cutting edge, and with the preparation of ornamental objects of the metal.

This fact illustrates the truth that the mere acquisition of some one art, even if it be so cardinal a one as the manufacture of iron, is utterly insufficient to lift a nation from barbarism, or even perceptibly to elevate it. Some of these African tribes, celebrated locally for their skill in metal-work of iron and steel, are examples of tribes almost as low in the scale as the Australians, and very much inferior to the average American Indians. Hence is manifest the error of those who would take progress in the industrial arts alone as the test of the growth of civilization.

As iron and steel still continue to be the materials preferred for obtaining a cutting edge, the "Age of Iron" is considered to include that in which

we live, and to apply to the civilized nations of the present world. (See IRON AGE, Vol. II.)

The second classification of the *stages of progress* to which we have referred has reference to the source of the food-supply. It is divided into the following heads :

1. The Hunting and Fishing Stage ;
2. The Nomadic or Pastoral Stage ;
3. The Agricultural Stage ;
4. The Commercial Stage.

I. THE HUNTING AND FISHING STAGE.

In this condition of life much the greater part or all of the food-supply is obtained from the products of the forest and stream without the exercise of care or cultivation. As a rule, little provision is made for the future, the stores laid up for periods of dearth being less in proportion and less providently cared for than those of the squirrel or the ant. As the life of such people is generally migratory, they do not build permanent residences nor establish durable social institutions. They are without history, an existence of ceaseless change and struggle for the necessities of subsistence soon extinguishing the memories of the past. Their arts are confined to those most essential to the pursuit of game and self-defence.

Nevertheless, as has been pointed out on a previous page (62), the exigencies of the life of the hunter are educational to the race. Pitted against the superior strength, the wonderful instincts, and the subtle senses of the brute, he must train his faculties to the utmost to make himself the master. Unprovided himself with fangs or claws, wings or fins, not even sheltered with a coat of hair, man was forced to enter into the unequal struggle for life with formidable Carnivora, with the fleet deer, the soaring bird, the darting fish, and had to devise means to capture and conquer all these in order to preserve himself. The labor was not light, and so far from feeling any disdain for the arts of the rudest tribe, the ethnologist will look upon them with profound respect, and astonishment that so much was ever accomplished by a being physically so ill prepared for the conflict.

Probably all the ancient tribes of the Palæolithic Age (see p. 170) were in this stage of development. The Australians, many of the South Sea Islanders, the natives of Canada, of Brazil, and of Patagonia and Tierra del Fuego are examples of hunting tribes in recent times. They are rapidly disappearing, the pressure of races of higher culture forcing them to other modes of life or to extinction.

2. THE NOMADIC OR PASTORAL STAGE.

The domestication of animals offered man a means of subsistence far less uncertain and less toilsome than the chase. Hence where there were species of animals capable of easy domestication it became in remote ages

a favorite source of livelihood. In many respects it was a notable improvement on the hunting state. The herdsman tames the wild animal by kind treatment; he must care for it and protect it in order to keep it alive; he must find food for it, and shelter when necessary. Thus his attention to the brute educates his benevolent sentiments toward his fellow-man. It becomes a cogent argument that he who will aid his ox or his ass when it falls into a pit should do as much for his neighbor. Moreover, the increased security of the food-supply allows larger masses of men to join in communities, and by this respect for social law is established, the nucleus of the State is formed, the sense of family ties is accentuated, and leisure for artistic development is increased.

No pastoral life was found either in Australia or America, as the fauna of neither of these continents contained any animal which could easily and profitably be domesticated in sufficient numbers to become a dependence for food. On the other hand, both Asia, Africa, and Europe offered various species of cattle, horses, sheep, goats, and asses, which readily submitted to the control of man, and in their milk and flesh provided a permanent and sufficient supply of food. Hence long before the beginning of history in each of these continents vast tracts were occupied by tribes who wandered with their flocks and herds from pasturage to pasturage, and placed their ideal and measure of wealth in the abundance of their domestic animals. We have heretofore mentioned how our word *pecuniary* carries with it the traditions of this ancient epoch (see p. 115); and the pages of the most venerable documents of human lore, of the Rig Veda, the Avesta, and the book of Genesis, bear unanimous testimony to the high honor in which the herdsman was held, the extraordinary care bestowed on the flocks, and the influence which they conferred on their possessor.

A pure nomadic life is still led by some of the Tartar tribes of Central Asia and by the Caffirs of South Africa; but the growing demands of other vocations have materially lessened its extent within historic times. It is probable that the Aryan nations who at a pre-historic period overran Southern and South-western Europe, driving before them the Iberians and Cave-dwellers and founding the villages in the Swiss lakes, were largely pastoral in their habits, or soon became so. Their remains indicate the possession both of cattle and horses. They continued substantially nomadic quite down to the fall of Rome, and are so described by Strabo, Tacitus, Cæsar, and other writers.

Nomadic tribes are usually migratory. They must ever be on the lookout for "fresh fields and pastures new." Relying on the spontaneous products of the soil for the food of their flocks, they must move from one locality to another as the seasons demand. This tends to prevent the establishment of permanent settlements and enduring social relations, and limits the benefits which the pastoral life brings with it. For this reason no pastoral nation has a history, nor has played any continuous part in the drama of the world.

3. THE AGRICULTURAL STAGE.

The general introduction of agriculture as a source of the food-supply marks the turning-point in the development of national growth. Agriculture puts a stop to the restless wanderings of the hunter and the nomad; it accustoms man to the salutary discipline of regular labor; it teaches him to work for the distant future; it fosters the sense of fixed property; it favors the congregation of individuals in large permanent communities; it allows leisure by offering facilities for the use of the labors of others. In these and in many other directions it introduces the conditions essential to a rapid industrial and intellectual development. The history of a nation begins when it relies mainly on agricultural products for its food.

In neither the Old nor the New World can we assign the date of the introduction of the cereals. That it was far in the past is shown by the difficulty experienced by botanists in discovering the wild forms from which the domesticated food-plants were derived. In America the maize was the principal and the only important cultivated food-plant of wide distribution. Starting from Central America (see p. 64), it extended north and south as far as the climatic conditions permitted its profitable cultivation. Nevertheless, the number of American tribes was not great which relied upon the culture of the fields as their main food-supply. Such was the case with the Peruvians, the Mayas of Yucatan and Guatemala, the Aztecs and some of their neighbors in Mexico, and with the Mound-builders who once occupied the Ohio Valley. The Algonkins, Iroquois, and other tribes east of the Mississippi were in a transition state, cultivating extensive plantations of maize and other food-plants, but not yet weaned from their migratory habits, and still largely addicted to the chase for their food. The unfortunate fact that they had no domesticated animals on which they could depend for meat forced them to seek it exclusively from the wild denizens of the forest and the stream.

The Aryans, as far back as the Stone Age, must, as their languages show, have cultivated in some rude manner barley and millet, which were also leading crops in Egypt long before the oldest extant monuments. Rye and oats extended through Europe at a later date, but were cultivated in the Bronze Period. Bronze sickles have been found in great abundance in some of the settlements on the lakes of Switzerland and in Savoy, and in less numbers, but yet frequently, in Germany, the British Isles, and Scandinavia. Mr. Evans is even of opinion that a somewhat similar form of flint implement was manufactured for the same purpose, and points to the cultivation of cereals during the Stone Age in England. The tillage of the soil was the foundation of the monarchies of Assyria and Egypt, and was always held in high esteem. In China rice was the most nutritive cereal, and its systematic cultivation began at least four thousand years before our era. Down to a late date, and perhaps yet, the emperor of China performs once a year the ceremony of sowing a field, to indicate the high importance attached to agriculture.

4. THE COMMERCIAL STAGE.

From some of the above examples it will be seen that agricultural nations may linger a long while in this stage, deriving their sustenance from field crops, yet making little headway beyond the satisfaction of their immediate needs. This was long ago observed by the historian Thucydides, who pointed out the necessity of commerce to a developed civilization. "In ancient times," he writes, "the land was cultivated merely sufficiently to supply the food required by the family, nor were orchards set out nor riches accumulated, because there was no commercial intercourse between nations. Travelling either by sea or land was perilous, and strongholds had not been erected as places of refuge and secure deposits for the overplus. Therefore they cared little for their homes, and were constantly wandering from place to place."

Agriculture must yield a surplus beyond the annual requirements of the nation, and this surplus must find its way through the medium of trade, partly to other nations, partly to other classes of the same nation, before the benefits derived from it are fully experienced. When this is accomplished, a portion of the population can confine themselves to other vocations without anxiety for the future, men can congregate in large cities, and the dreadful results of famine need not be apprehended. Nothing but an extremely perfect system of supplying food by commerce would allow the existence of cities like New York or London, in which probably on no day during the year is there sufficient food stored to supply the inhabitants one week.

Stages by General Condition.—Although both the above classifications of the stages of progress—the one based on the *artistic development*, the other on the *sources of the food-supply*—are useful in certain branches of science, especially archæology and political economy, it is evident that neither fully satisfies the requirements of the ethnologist. He asks for a more detailed and comprehensive picture than either of these single elements of national growth, or than any one element whatever, can supply. Therefore it is more fruitful in this science to retain the old classification, based on general conditions, which divided the stages of progress as follows:

1. The Stage of Savagery;
2. The Stage of Barbarism;
3. The Stage of Semi-civilization;
4. The Stage of Civilization;
5. The Stage of Enlightenment.

The general characteristics of each of these stages can be clearly enough assigned, premising, of course, that they are artificial distinctions, established merely for the purpose of aiding us to grasp with greater facility the details of the steady and often scarcely perceptible rise of a nation from the lowest to the highest place on the scale. The one condition merges into the other without abruptness, and the higher constantly retains traces of its ruder predecessors.

I. THE STAGE OF SAVAGERY.

In this condition of society the nation depends for its food on natural products; marriage is polygamous and temporary, and there are no formalities connected with its celebration; language is rudimentary, concrete, and deficient in formal and syntactic elements; weapons and tools are of stone, bone, or wood, and of rough construction; the houses are mere temporary shelters, and the clothing is of skin or bark; the government is tribal and unstable, and there is little notion of property rights; and the religion is principally the incantation of evil spirits.

The whole race during the Palæolithic Age was in this condition, and such existing tribes as the Australian blacks, the Fuegians, the Botocudos of Brazil, and the Tinné of British America are examples of its continuance to our own times.

2. THE STAGE OF BARBARISM.

This is reached when the food-supply is no longer wholly dependent on spontaneous natural products, but these, still regarded as essential, are supplemented by domestic animals and by agriculture; marriage is recognized and is often a solemn ceremony, and the selection of a wife is governed by rigid customs; the structure of language is syntactic, and the signification of words figurative; pottery is invented, copper and iron may be in use, but stone continues to be the leading material for weapons; permanent houses are grouped together in villages, and the clothing of woven stuff indicates that the simpler modes of weaving have been discovered; the laws, though unwritten, are recognized and respected, and the government is often hereditary; a mythology has grown up, religion is polytheistic, and its rites are conducted by a priestly class.

At the present day the pastoral tribes of Central Asia are in this condition, as are also most of the pure Negro tribes of Africa. Other examples were the American Indians of the Eastern United States at the epoch of the discovery, the Caribs of the West Indies, the Gauls, Britons, and Teutons of Cæsar's time, and the ancient Iberians. In the archæology of art it corresponds to the Neolithic and Early Bronze Age.

3. THE STAGE OF SEMI-CIVILIZATION.

Cultivated animals and plants become now the chief source of food; the rights of woman are more fully acknowledged, and sexual love is an emotion, and not merely an appetite; language is polished by the growth of literature, which now becomes possible by the invention or adoption of a more or less perfect system of writing; several metals are in use, and the construction of buildings of stone and mortar and the manufacture of bricks are in progress; the æsthetic arts are cultivated with ardor; government is theocratic, aristocratic, or monarchical, and society is divided into castes; religion has grown distinctly moral, but is not yet specialized as separate from government, and is still in essence national and mythologic.

The whole of Europe during the Middle Ages was in this state of semi-civilization ; it is applicable to the condition of ancient Egypt, Assyria, and Palestine ; most Mohammedan countries approach it ; and in the New World the states of Mexico, Mayapan, and Peru furnish other examples.

4. THE STAGE OF CIVILIZATION.

Here the means of subsistence are obtained as largely through commerce as through agriculture ; the influence of woman is felt and acknowledged as almost equal to that of man ; education is general, and the growth of polite literature has established the canons of good taste and enriched the capacities of the language ; iron has taken the place of other metals for tools and weapons ; an established currency and widely-recognized system of weights and measures facilitate the exchange of commodities ; the civil law is digested, and is clearly separated from religious edicts ; the rights of property are secured by an equitable administration of justice ; the reins of government are in the hands of one or a few families in the state, who are held to a more or less strict accountability by the remainder of the community ; religion is recognized as of universal application, both geographical and with reference to classes, but is still bound down to certain formulas, creeds, or dogmas, the acceptance of which is deemed imperative.

This, it will readily be seen, was in its main features the condition of Greece and Rome in their best days, and is now of a great part of modern Europe. Modern civilization began with the revival of learning in the fifteenth century—an epoch marked by the discovery of the New World, by the invention of printing, by the application of gunpowder to war and engineering, and by an unparalleled activity in the fine arts. It extended to the last quarter of the eighteenth century, when the establishment of the republican governments of the United States and France, followed shortly by the rise of the natural sciences and the application of steam to transportation by sea and land, marked the beginning of

5. THE STAGE OF ENLIGHTENMENT.

We are, indeed, but in the beginning of this period, but its conquests have been rapid and its lines of development are already clearly marked out. We may look securely forward to the time when improved methods of agriculture and transportation will render impossible any general famine, and will permit the aggregation of mankind in indefinite numbers ; marriage, already monogamous, will be on entirely equal terms, and woman will be held in all respects entitled to the rights and privileges of the other sex ; by the study of comparative and philosophic grammar, language will be brought closer and closer in accordance with the processes of logical thought ; the industrial arts will no longer be experiments, but, prosecuted under the demonstrable laws of science and with the knowledge of the fundamental unity and intimate correlation of all

forms of force, will win conquests over nature which at present it would be temerity to estimate; the fine arts, guided by purified canons of the beautiful, will minister more fully even than in ancient Greece to the ennobling pleasures of life; with the recognition of the equality of all men before the law, and the right of every people to govern itself, the forms of monarchy and aristocracy will yield to republican governments; international law and arbiters will do away with wars and the necessity of maintaining standing armies; and, finally, in religious matters the lines drawn by sects and dogmatism will disappear, and, whatever the organization of local denominations, all will recognize that the only article of faith essential to a true religion is that so admirably worded by the Chevalier Bunsen: "A belief in a universal order, in which the True is the only Good, and the Good is the only True."

Morgan's Subdivisions.—These are the main stages in the psychological evolution of the human race. Some writers, as Mr. Lewis H. Morgan, have attempted to introduce yet more minute divisions, separating, for instance, the status of savagery into three subdivisions, the first characterized by an ignorance of fire and of fishing, the second by a knowledge of these arts, the third by the discovery of the bow and arrow. His remaining divisions all have reference to the growth of industrial arts. We have already pointed out that it is incorrect to select any one element of culture as the common measure of all; moreover, it is now generally recognized that man knew the use of fire even in the late Tertiary; and as for the bow and arrow, it was a local invention, it being the opinion of some able antiquaries that the Peruvians did not know it. Hence Mr. Morgan's classification is both inadequate and incorrect.

Chronological Conclusions.—Many calculations have been ventured as to the relative length of these stadia of human progression. The results have been widely diverse, but we may take that of the eminent French antiquary, Gabriel de Mortillet, as representing approximately the mean of the several estimates. All agree that the first or Palæolithic Age was very much the longest. The deposit of alluvium by rivers and the erosion of their channels have been the chronometers most relied upon. This method, applied to Europe, Western Asia, and Northern Africa, gives the following figures

	Years.
From the date of the oldest stone implements to the close of the Palæolithic Age.....	222,000
From the beginning of the Neolithic Age until the dawn of history.....	12,000
From the dawn of history to the present time.....	6,000
Total.....	240,000

Of course this is intended merely as a rough approximation, but it is probably as accurate as observations at present allow, and is not altogether wide of the mark.

II. THE CONDITIONS AND MOMENTA OF PROGRESS.

Reviewing the facts above stated, we find that the whole of the human race remained for an enormously long time in a condition of complete savagery, and when this began to disappear before the growing day of civilization, the progress of different races and nations was by no means the same, some remaining scarcely above the palæolithic savage, while others have progressed far on the road to complete enlightenment. The problem is thus presented to the ethnologist to ascertain what were the conditions which led some nations to advance and others to stand still, and what impulses or momenta have led or driven forward those of highest culture. The answer could not be a brief one, for it embraces the whole philosophy of history ; nor could it be a simple one, for the motive-forces of civilization are highly complex and manifold, and those which have instigated one nation have not been the same for all. Nevertheless, there are a few general conditions and impulses which have been almost universal in their action, which we may select for particular consideration here. They are as follows :

1. The Growth of Wants ;
2. Racial and National Endowments ;
3. Geographical Surroundings ;
4. The Commingling of Nations ;
5. The Influence of Great Men.

The first two of these may be regarded as impulses from within, the remainder as acting from without.

I. THE GROWTH OF WANTS.

In an essay on "Civilization considered as a Science" an English writer, Mr. George Harris, has remarked : "Whatever produces want or occasions the perception of it has a tendency to promote civilization." What savage nations have lacked to impel them toward culture is not power, but stimulus. This is in a measure proved by the ability shown by many of them to receive as good an education as the whites, and also by their indifference to many of the pleasures and luxuries which they can now obtain by labor, but which they do not seek. Instances are frequent where children of the lower races have been educated, but returned to savagery when grown to adult years. An English traveller was astounded to see a half-naked Australian guide pick up and read one of his Latin books. On inquiry, he found the native had been trained in England for a missionary, but when he returned to his native land the attractions of the wild life were too powerful for him. The anthropologist Waitz has maintained that there is reason in this—that neither the sum nor the intensity of the joys of civilized life equals those of the savage condition, and its pains are more numerous.

The wants which educate must extend beyond the mere satisfaction of the appetites. Man must seek beauty and love variety ; he must be touched by the sacred fire of glory, and be goaded to heroic action by

the spur of ambition ; the taste for adventure and the thirst of knowledge must be in his breast in order to drive him forward in the path of progress. The desire of power, the greed of gold, the love of ostentation, and the noble passion for doing good, all in their several ways call forth his energies and act as stimuli to his efforts.

2. RACIAL AND NATIONAL ENDOWMENTS.

Many anthropologists have attached great weight to the supposed natural capacities of the white race for culture as compared with the others. It is true that the African race, although for thousands of years in contact with the civilization of Egypt, has never developed a nation with a history, but it is also to be remembered that the Mongolians were almost a civilized people when nearly all the Aryans were savages of the Stone Age. Scarcely more than a thousand years ago the local ancestry of the English of to-day were partly tribes of painted and tattooed cannibals. The Veddahs of Ceylon are believed to belong by descent to the Aryans, but in culture they are little above the Australians.

It should also be remembered that there is no evidence going to show that in the long pre-historic period the white race showed any signs of superiority over the black or the red races. Only in what is comparatively a very short time has it manifested those greater abilities on which it prides itself. That these are attributable to any innate pre-eminence there is nothing except perhaps language to lead us to believe.

3. GEOGRAPHICAL SURROUNDINGS.

Of far more obvious influence on the growth of civilization, especially in its infancy, are the soil, the climate, and the other physico-geographical surroundings of a nation. These are most promising when they offer conditions favorable to agriculture in a well-watered and fertile plain protected from the incursions of foes by mountain-ranges or deserts. Where localities of this description have been discovered by man, he has generally started on his career of progress without reference to the race to which he belonged. Thus, in China we find that the three great and fertile valleys of the Hoang-Ho, the Yang-tse-Kiang, and the Tschu-Kiang were peopled by the Mongolian race at a period extremely remote, who there developed a ripe culture entirely independent of any to the west, with its own forms and producing its own religion and philosophy, in theory, at least, still unsurpassed by any elsewhere.

South of the almost impassable chain of the Himalayas were several fertile and well-protected vales in Upper India. They also were the scenes of an independent culture, which, beginning in distant ages, spread itself southwardly over the peninsula and far into the island world to the east and south-east. The broad and rich Mesopotamian plain, watered by the majestic Tigris and Euphrates, presented a favorable spot for the growth of the higher life, which was eagerly carried out by the Accads, a nation of unknown affinities, possibly Ural-Altaic or Turanian,

and later by Aryan and Semitic tribes. From this centre the knowledge of arts and laws extended west to the shores of the Mediterranean Sea and along its northern and southern coasts, in time quite to the Pillars of Hercules. Of equal age and independent in origin was the venerable culture of the inhabitants of the Nile Valley, a brown people, but believed to be an ancient offshoot of the white race.

In America the elevated tropical valley of Mexico, the fertile and isolated peninsula of Yucatan, and the lofty plains and productive valleys of Peru and Cundinamarca provided the requisite soil and security for centres of civilization, and were utilized by nations of the red race wholly asunder in language and affinities. The bottom-lands of the Mississippi and its tributaries offered ample soil of the richest character, but the needed security was lacking, and the promising beginnings of culture there established by the Mound-builders were extinguished by the incursions of savage enemies from the north.

4. THE COMMINGLING OF NATIONS.

We have referred several times in other connections to the advantage which nations derive from an intermingling of languages and blood, whether by warlike or peaceful measures (see pp. 53, 88). Isolation is beneficial only up to a certain point, and then the necessity for intercourse becomes apparent. The nation fossilizes and progress is checked unless new blood, new words, and new ideas are imported from abroad. The typical example of this is the Chinese state. Its geographical conditions, which we pointed out as so eminently favoring its early advancement, became in later times barriers to its progress, and led its arts and literature to fall into a state of quiescence, in which they have remained for nearly two thousand years without perceptible improvement. The wonderful growth which has been witnessed in Europe and America within the last generation is largely attributable to the unequalled extent of national intercourse brought about by the application of steam-power to transportation.

5. INFLUENCE OF GREAT MEN.

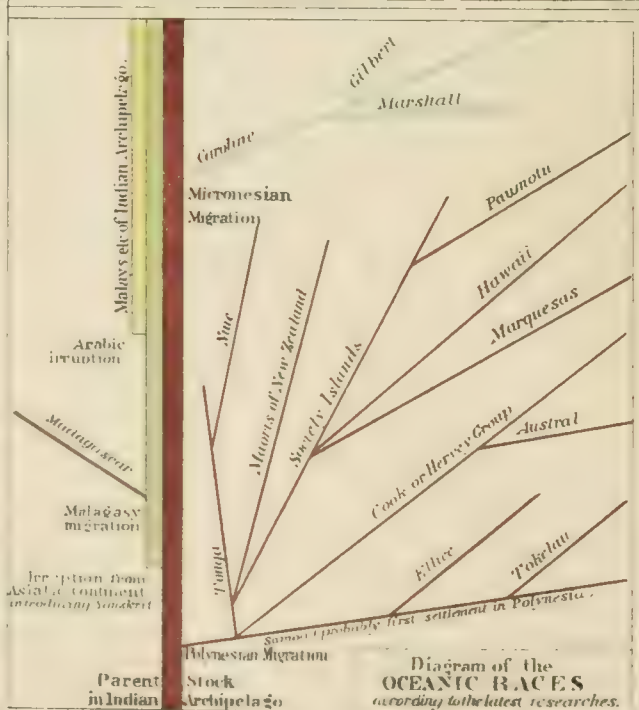
Some writers have measured the advance of the race by the great men who from time to time have made their mark on the history of their times. Such "hero-worship" has at all times been popular, for, as the statesman Machiavelli observes, there is a strong tendency in the mind of the multitude to personify all great social changes under some one individual.

No one will question the personal power wielded in life, and by the memory of their deeds after death, by such conquerors as Alexander of Macedon and Julius Cæsar; by such founders of religions as Sakya Muni and Mohammed; by such artists as Phidias and Raphael; by such philosophers as Plato and Bacon; by such poets as Homer and Shakespeare. But the best of seeds will perish if cast on a barren soil; and to make the labors of these men effective there must have been a readiness to respond

in the national and racial mind at the time—a receptivity to great thoughts and ambitions which these heroes did not create, but of which they merely availed themselves. Such characters are in part the product of their age and nation, and our estimate of their influence is apt to be exaggerated by concentrating in their prominent and familiar individualities the effects wrought by the combined powers of their epoch.

CONCLUDING REMARKS.

Such are the complex forces which have lifted man from the position, scarcely above that of the beasts, in which his early remains prove that he so long existed, up to the height of intellectual and moral enlightenment in which we find the best examples of his race to-day. We need scarcely emphasize how such a broad survey as this tends to expand our notion of history, and to release the mind from that narrow view which would seek the secret of progress in one or another of the single spheres of intellectual activity. The lesson that Ethnology teaches is that only by a symmetrical development of the powers of individuals can they work to the greatest advantage for the mass. Not the thoughts or actions of one, so much as the concerted labor of many, has reared enduring monuments of human welfare. In the past this has been accomplished at haphazard, without appreciation of the ultimate results, almost unconsciously. Often, indeed, our predecessors “builded better than they knew.” It has remained for the science of Ethnology to comprehend man in the aggregate as a unit, and, “looking before and after,” to prove from a generalization extending through all ages known to the race, and embracing all the inhabited areas of the globe, that “all men’s good should be each man’s rule,” and that with this as the guiding law of life the Golden Age may indeed become something more than the dream of the poet.



OCEANIC PEOPLES.

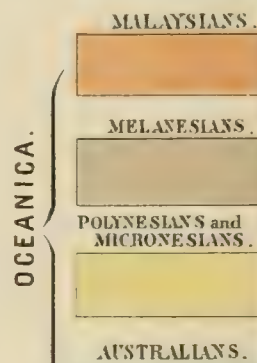


Diagram of the
OCEANIC RACES
according to the latest researches.



Index of Colors.

AMERICANS.	MONGOLIANS.	DRAVIDIANS.	ARABIC-AFRICANS.
HYPERBOREANS.	INDO CHINESE.		KOI-KOIN.
NORTH AMERICANS.	URAL-ALTAIC.		BANTU PEOPLES.
MEXICANS and CENTRAL AMERICANS.	Isolated NORTH ASIATIC'S.	INDO - EUROPEANS.	Peoples of the SOUDAN.
SOUTH AMERICANS.	CAUCASIANS.	BASQUES.	SEMITES.
		INDO GERMANIC.	AFRICAN.
			ASIATIC.

PART III.

ETHNOGRAPHY.

IN accordance with the views now generally adopted (see pp. 40, 55), we shall describe the various races, tribes, and nations of men with reference to the grand continental and insular areas which they occupied when they first came under the intelligent observation of travellers and historians. In other words, we shall classify the species according to the geographical distribution of its members.

Such a classification affords the following six grand divisions (see *Map*):

- I. THE OCEANIC PEOPLES;
- II. THE AMERICANS;
- III. THE MONGOLIANS;
- IV. THE DRAVIDIAN PEOPLES;
- V. THE ARABIC-AFRICAN RACE;
- VI. THE INDO-EUROPEAN RACE.

I. THE OCEANIC PEOPLES.

This group is subdivided into the following six main divisions:

- 1. The Malaysians, from the peninsula of Malacca and the Andaman Islands to Formosa, the Philippines, and the Molucca Islands.
- 2. The principal peoples of Madagascar, the Malagassies, the Sakalavas, and the Hovas, besides a number of other subordinate tribes.
- 3. The Micronesians, the inhabitants of the islands from the Philippines eastward to the Marshall and Gilbert groups.
- 4. The Polynesians, who, widely distributed in space, spread from New Zealand to the Hawaiian Islands, and from several islands of the Solomon group eastward as far as Waihu (Easter Island).
- 5. The Melanesians (Papuas, Negritos), from New Guinea (Papua) to New Caledonia and the Feejee Archipelago.
- 6. The inhabitants of the continent of Australia and the island of Tasmania.

Several of the divisions manifest a closer relationship to one another, such as the first and second—the Malaysians and Malagassies—and likewise the third and fourth, the Micronesians and Polynesians. On the other hand, they divide within themselves into a number of smaller subdivis-

ions. Thus, in Polynesia, every larger island-group constitutes a distinctly characterized branch of the race; the same appears in Melanesia, as shown, for instance, on the Feejee Islands; the Australians are divided into three groups, the northern, southern, and western tribes, to which the Tasmanians may be added as a fourth. Particularly numerous, and varying with the nature of their territory, are the races of Malaysia. First, the inhabitants of Malacca, the Malays proper, are to be distinguished; next, those of Sumatra; then Java, Borneo, Celebes, each with its smaller neighboring islands; further the Philippines, together with Formosa, the Moluccas, and finally the little south-eastern island-groups which constitute the transition to the Melanesians. The Negritos, who are found in several parts of the archipelago, we shall more particularly allude to in connection with the Melanesians.

We will now proceed to the ethnological description of these races, beginning with the most uncivilized.

I. THE AUSTRALIANS.

Physical Characteristics: Stature and Color.—The races of the north are physically and intellectually better developed than those of the south, east, and west; they are tall (often six feet) and well formed, while the latter are for the most part smaller in stature and of puny figure, with thin, weak extremities, and, in consequence of large quantities of innutritious food, have the abdomen unduly enlarged. The physical strength of the Australians is throughout slight, but their dexterity and agility are actually astonishing. The color of the skin is seldom fully black, being for the most part a lighter or darker brown, and often copper-colored.

The hair is generally dark-brown, in some cases coarse and straight (*pl. 4, fig. 8*), again wavy and quite curly or bushy; in general, coarse, but in some cases of a silky softness. The hair of the Tasmanians, who are now nearly or quite extinct, is always curly, in some cases short, in others falling in ringlets, and at times tufted (*pl. 6, figs. 2-4*), the beard and the hair of other portions of the body being profusely developed. The eyes are small; frequently somewhat oblique, and the upper lid as if swollen, their color being always dark. The nose is depressed at the ridge, broad at the apex, even when, as at times, it is beak-shaped in form. The lips are generally thick, the mouth is large, the teeth are well grown; the third upper back tooth is always triple-rooted, and the eye-teeth are often strongly developed.

The Skull.—The crania, which are sometimes artificially shaped, are, especially in the southern portion of the continent, remarkably thick—*dolichoccephalic* (breadth index, 70; *i. e.* proportion of width to length of skull as 70 to 100; see p. 48)—and at the same time quite high (*pl. 2, fig. 15*). The countenances are for the most part quite repulsive and wild in expression (*pl. 4, figs. 1, 4*); often, however, among the more favorably situated races, they are comely and attractive.

Domestic Habits.—The Australians are by no means of a cleanly habit, the Tasmanians being somewhat superior in this respect. Both races for the most part live in a nude state, though the males are often provided with a covering of opossum-skin; to them, likewise, all ornament is reserved, such as feathers, chains of shells and of the teeth of animals, and tufts and cords of human hair artistically woven (*pl. 5, fig. 11*), which are plaited into their own hair; the tails of animals are likewise so utilized, generally in connection with the beard (*pl. 4, fig. 1*). Both sexes, and particularly the women, are wont to carry their worldly goods in a sack, which is often of artistic workmanship (*pl. 5, fig. 22*), and which is thrown over the shoulder and fastened by a band around the head; in this manner, also, they carry their infants, which, wrapped in a pelt, rest upon a straw mat (*pl. 5, fig. 17*), thus preventing them from beating against the back of the bearer. They rub their bodies as often as possible with fat and with ochre or earth, or they paint themselves with gay colors. They often display upon the arms and breast the scars of wounds, which they inflict upon themselves with great ceremony (*pl. 4, figs. 1, 2*); this practice prevails mostly among the men.

Dwellings.—In the south and south-east they build no houses; wherever they rest they erect some temporary protection against the weather, made of the twisted twigs and bark of trees. In the north and in the interior of the continent, likewise often in Tasmania, they have round, hive-shaped huts composed of interwoven twigs, which rest upon a foundation of logs, and which are made water-tight by means of earth and bark (*pl. 5, fig. 4*). Larger huts are also to be found, and in the northern portion even villages are to be met with in which every dwelling has a sleeping-hut attached (*pl. 5, fig. 4*); even artificial wells and bridges have been noticed in these districts. This indicates a more settled mode of life in the north than that which prevailed in the southern portions and in Tasmania, in which regions only wandering tribes without settled habitations were to be met with. These latter were forced to this mode of existence by the sterility of the country, which, less generous than in the north, compelled the southern aborigines to wander about for a subsistence. By this, however, their agility in climbing trees and stealthily securing their game was remarkably developed. They generally carry fire with them in their wanderings, or kindle it by friction; very little of their food is eaten raw. They have a variety of hooks, nets, and other fishing implements, traps for birds, etc. Others of their simple utensils are depicted on Plate 5 (*figs. 14, 16, 20*). They have been found to possess canoes simply constructed from the bark of trees (*pl. 6, fig. 7*), and in the north even make boats from the hollow trunks of trees.

Weapons and Wars.—Plate 5 shows a number of their weapons, only two of which are worthy of mention—the boomerang (*pl. 5, fig. 8*) and the hurling-stick (*pl. 5, fig. 6*), the latter being used for the purpose of giving a more forcible impulse to the spear. Their wars, though frequent, are not sanguinary, consisting, as they do for the most part, of yells and

opprobrious epithets. Indeed, the first blood generally ends the conflict. Cannibalism was at one time practised, though not extensively; the fat lying around the kidneys of the fallen foe was eagerly sought after. They frequently mangled the corpses and used the skulls as drinking-cups (*pl.* 5, *fig.* 15.) This was also a custom in the case of near relatives, whose bodies were often partly or wholly devoured.

Marriage.—Brides are generally obtained by forcible abduction; this, however, in many places is mere ceremony, as the man always looks to another clan for his wives, to whom no numerical limit is set save his ability to support them. Strict chastity is expected only from the married women, not from widows or maidens. The married women are the absolute property of their husbands, and are compelled to do all the work, such as building the huts, lighting fires, and providing food; and they do all the carrying—even their husbands' spears, and, of course, their children. Notwithstanding all this heavy work, they are frequently ill-treated, and receive only the broken bits from the tables of their lords. But all transmission of relationship is the exclusive province of the women, and, despite the frequent practice of infanticide, there is often considerable family attachment between man and wife and parent and child.

Character.—As a whole, the character of this race is by no means bad—at least, where no foreign cause has intervened to spoil it. Even their lazy habits may be cured, as has been repeatedly proved. Their mental powers are fair, although they count only so far as the number four or five, and although many clans and individuals among them have become at present exceedingly degraded. It should also be remembered that their nomadic habits have prevented the development of many of their capabilities.

Arts.—Their achievements in the arts are, of course, very insignificant. Plate 4 (*figs.* 9, 10, 11) and Plate 6 (*fig.* 8) contain specimens of their painting, both from the north-west, in which the large heads and the man with the kangaroo show traces of Malayan influence. Their poetry is mostly short epigrammatic verses composed at the time of great and important events; but there are also longer songs, which are sung on festal occasions. Their vocalism, consisting generally of chromatically descending intervals, is said to be pure and not devoid of rhythm.

Amusements and Festivals.—They have many kinds of games, and they are especially fond of dancing by the light of the moon. These dances, always accompanied by singing, are principally imitative in character, representing kangaroo- or emu-hunts or battles, and are frequently intermixed with much obscenity (*pl.* 4, *fig.* 12). No feast or solemn occasion takes place without dancing, such as the dance of the treaty of peace (*corroboree*), and likewise the dances of the full moon and of the dead. Their most important feasts, during which there is no lack of dances of a religious character, with plenty of sacred ornaments (*pl.* 5, *fig.* 12), are those which celebrate the progress of the youth to manhood—first, the feast of circumcision, and then that of full majority. In some places the latter event is marked by drawing the front teeth of the young

man. Women and children are forbidden, under pain of death, to be present at these highly-varied ceremonies. The noise made by a block of wood hung on a string—the so-called “bullroarer” (also used to frighten off evil spirits)—is the signal for them to keep at a respectful distance.

Government.—The tribes, which are very numerous and in some cases closely connected, are based on the family. In the west they even have names in common taken from some animal or plant sacred to the tribe. The oldest man of the tribe generally has so much influence that he may be regarded as its head; yet in the east and the south we find actual chiefs who have inherited their dignity and have great power, and to whom the heads of the families are subject. Strict divisions of society (whose members are none the less equal in law and in daily life) are to be found only in the north. Every tribe has its own well-recognized territory, in which no member of another tribe may travel, still less hunt for game. Likewise, each small family possesses its own portion of land, which cannot be transmitted by the women, although in some cases they may be joint-heirs. The tribe adheres to the old custom of reprisal in the case of misdemeanor of a member—at least, when the evil-doer escapes. If he is caught, the punishment for small offences is a few thrusts with a spear in the side; for greater ones, he must take his shield and protect himself as best he can against the spears of the whole of his tribe. Adultery and theft, if committed against one of the same clan, are punishable by death. Duels are quite frequent. They believe in supernatural punishments for a large class of offences.

Religious Belief.—Their religious belief, although much disjointed and of a sombre character, acknowledges certain gods, some beneficent, but most of them revengeful. There is no lack of legends about the creation and about stars; the heavenly bodies, by which they compute time, are universally adored. One of the principal beliefs is that in malicious demons and spirits, which renders darkness a horror to them; of these they entertain the common belief that they are the souls of the dead. Yet the latter (concerning whose future existence as stars, animals, etc. different views prevail) are not unfrequently represented as mild and kindly disposed; in such cases they are looked to as the protecting spirit of the tribe or of the individual. In some localities an individual chooses a special protecting spirit for himself upon the attainment of his majority, the spirit manifesting itself in the form of some animal. Priests and temples are exceedingly rare; idols of very rough workmanship are sometimes found. Magicians, on the contrary, have great and widespread authority, being considered masters of rain, of the condition of crops, of victory, sickness, and death. They also act as physicians. The belief is current that sickness is an enchantment, and that if the evil spirit, which is in the form of a stone somewhere in the patient's body, can be driven away, the malady will be cured. For this reason after deaths there are frequent wars of revenge against those who are believed to have brought on the evil influences.

Burials.—In some places the dead are burned after being placed in a

hollow tree; in others buried, generally in a sitting posture, the grave being decorated in various ways. Elsewhere the body is left to moulder away on a wooden scaffold, the bones being interred after a time (*pl.* 4, *fig.* 5). In the south-east the dead are buried in a boat-shaped kind of coffin. In Tasmania there were found little skin tents erected over the graves (*pl.* 6, *fig.* 9).

Social Condition.—This description serves to show that the Australians are by no means so degraded as is generally supposed, and that in a more favorable country they would certainly have developed better. In their intercourse with Europeans they appeared at first very friendly, as well as skilful in many ways; even at present in many localities they are useful, particularly for watching cattle and sheep. But the whites, whose earliest settlements were penal colonies established in the south-eastern part of the continent, treated them dishonestly and inimically, intruded upon their hunting-grounds, and injured them in every way. The laws passed for their protection came too late, and when enacted were not strictly enough executed, so that in the south and the south-east the Tasmanians were wholly, and the Australians almost entirely, driven out.

Language.—Their languages, which in respect to the roots of the words are often very different from one another, nevertheless arise from one common mother-tongue, and are not inconsiderably developed. They have a polysyllabic structure, but no distinction between substantive, adjective, and verb. By the use of suffixes, however, they are quite able to express various ideas of space and number, as well as numerous abstract relationships. The pronouns are richly developed, possessing a dual form, and by their aid and that of suffixes they can express notions of mood and tense. They adhere to their native tongues with great tenacity.

2. THE MELANESIANS.

Classification.—Under this head we include also the so-called Negritos, the dark-colored, curly-headed tribes which are scattered about here and there in Malaysia, such as the Mincopies of the Andaman Islands (*pl.* 20, *figs.* 16, 17), the Semangs from the interior of the peninsula of Malacca, and the Aetas of Luzon (*pl.* 11, *figs.* 6, 7); but it is very doubtful whether these peoples really belong in this class, and whether they are not undeveloped or partially extinct old Malay tribes. Their languages alone could decide this point, and we know little or nothing of them. With these should be included New Guinea (Papua) and its neighboring islands, the islands of the Torres Strait, the Louisiade, New Britain, the Solomon Archipelago, the Nitendi group, the New Hebrides, New Caledonia with its surroundings, and, finally, the Feejee group.

While Australia remained free from mixtures of other people (for the commercial voyages of the Malays to the north-east of the continent had only local influences), Melanesia was more frequently visited, first by Malays on Western New Guinea and its islands, then by Polynesians in Feejee on the easternmost islands of the Solomon Archipelago and the

groups southward to New Caledonia. These visits, however, were mostly of an inimical character, and brought about little real mixture. Polynesian tribes forced their way in, drove back the Melanesians, and settled themselves on the islands. The population of the Feejee Islands is not a mixed one, except upon a few of the eastern islands of the Archipelago, where there is a small tribe of mixed blood, called the Red Feejeeans. The language of the remainder, as well as their corporal build, proves the purity of their descent.

We call the race *Melanesians* or *Papuas*. Throughout the Malay Archipelago the latter word means "dark-colored, very curly-headed men." The name Negrito (Negrillo) is not well chosen, for the people now under consideration have no relationship with the Negroes, and resemble them but slightly. *Harafures*, or *Alfures*, is a term applied in Malaysia to dark-colored, straight-haired men, and is not applicable to the Melanesians.

Physical Characteristics: Stature and Color.—The Melanesians are in general over middle size; only a few tribes besides the Mincopies, the Semangs, and the Aetas are small. Their bodies are fine and well proportioned, except that in the case of the poorer ones we find the paunchy bellies and the thin limbs of the Australians. The color varies from dark to gray, more frequently from chocolate-brown to light brown, or even tawny yellow.

The Hair.—Only in the case of the Mincopies, who often shave themselves bald, does the hair grow short and in separate locks; with the rest of the Melanesians it is mostly very long, stiff, and exceedingly curly. It never grows in separate locks, but curls in little tufts, often of great length, which are plaited together and fastened down with art and care. The Melanesians are very proud of their hair, so that we often see it made up into monstrous perukes, each separate hair standing out singly. It is cut, colored, and ornamented in the most singular manner (*pl.* 6, *figs.* 10, 11; *pl.* 7, *figs.* 1, 2, 3; *pl.* 8, *fig.* 3; *pl.* 9, *figs.* 1, 25; *pl.* 11, *figs.* 1, 4, 5; *pl.* 12, *figs.* 1, 2, 4, 19, 20), and long-toothed combs (*pl.* 9, *fig.* 16; *pl.* 11, *fig.* 1; *pl.* 12, *figs.* 8, 9) and hairpins (*pl.* 12, *fig.* 4) play an important part in its arrangement. Special pillows (or curved stools) are provided for night-use, by which the *frisure* is protected (*pl.* 17, *fig.* 6; *pl.* 9, *fig.* 4). When a Melanesian makes a figure of a head, he always puts on it this immense peruke (*pl.* 9, *fig.* 16).

The beard grows luxuriantly, and in most cases also the hair of the body, which in some localities grows in tufts and in others thinly, when it is mostly pulled out. The nose is frequently Roman (*pl.* 7, *fig.* 1; *pl.* 12, *fig.* 2), often, also, straight, and always pressed in at the roots, and at the lower end is broad and full; the lips likewise are thick and large. The Feejee Islanders in particular often have handsome faces, and in Melanesia, also, handsome men are not rare (*pl.* 11, *fig.* 5; *pl.* 12, *figs.* 2, 4).

The skull is dolichocephalic (*pl.* 11, *figs.* 2, 3, 8, 9), and at the same

time very high; the forehead is flat and receding, with strongly-marked eyebrows. This flatness, which is very noticeable in our illustrations, was often produced by artificial means.

Dress and Customs.—Our illustrations give a good idea of the clothing of the Melanesians. The men frequently go quite naked, except the loins, which they contrive to cover in a really wonderful manner (*pl.* 9, *figs.* 19, 21, 25; *pl.* 11, *fig.* 5). The women always wear an apron (*pl.* 12, *fig.* 21). Their wide ear-lobes are frequently pierced (*pl.* 9, *fig.* 12), as is also the cartilage at the lower end of the nose, flowers, bits of wood, teeth, etc. being inserted in the opening (*pl.* 7, *fig.* 3; *pl.* 11, *figs.* 1, 4). Circumcision is universal except in New Guinea. A coarse form of tattoo is widely practised. The figures are often quite elegant, and are either cut into the skin and then eaten by acid or burnt in; large scars on the skin frequently result from the operation. This is chiefly noticeable among the women. The Feejee Islanders paint their faces red, white, and black in the most singular manner (*pl.* 12, *figs.* 1, 2, 3).

Dwellings.—Their dwellings, though often only mere sheds to protect them from the weather, are for the most part well-built houses, which stand together in villages, and are particularly artistic in New Caledonia (*pl.* 9, *figs.* 26, 27). We also notice high sloping roofs extending low down toward the earth, made of plaited work, with open or closed sides and gables (*pl.* 7, *fig.* 5; *pl.* 8, *figs.* 1, 2). The houses very frequently stand on piles; for example, the rather awkward work of the Louisiade (*pl.* 10, *figs.* 6, 7), where the posts are the height of a man, or the far better built ones of New Guinea (*pl.* 8, *fig.* 2). Here also they stand in villages, or an entire village may be built under one roof, a long building being made of adjoining rooms for large families (*pl.* 8, *fig.* 4). The remarkable buildings of Humboldt Bay, which are supported on piles in the water, connected by bridges, and divided into rooms inside by mats hung like curtains, may be seen on Plate 7 (*fig.* 5) and Plate 8 (*fig.* 1). Others not so striking occur at Dorei (North New Guinea). (See LAKE-DWELLINGS and illus. Vol. II.) A most curious temple in the form of a ship has here been placed in the water (*pl.* 7, *fig.* 4), while the houses, as in the Feejee Islands, are on shore. The Feejee houses, whose ridge-poles are much lengthened and supported by artistically-carved pillars (*pl.* 13, *fig.* 7), resemble the temples, except that the latter have stone foundations and are built throughout with more care (*pl.* 13, *figs.* 1, 4, 5, 11). The villages have tolerably clean streets, protecting walls, and plenty of fruit trees around the houses, and always a large assembly-house.

Arts.—The Melanesians are not without skill in shipbuilding and the like, and some of them are addicted to piracy. In New Caledonia they have double boats with an outrigger or beam on the surface of the water, which is connected by a lattice-work or a sort of bridge with the boat, and which thus keeps it steady. In many places we find lateen sails, and frequently very finely carved prows (*pl.* 7, *fig.* 7) and mastheads; on the other hand, we sometimes find merely the hollowed-out trunks of trees

serving for boats (*pl.* 8, *fig.* 4). The Feejee Islanders have numerous forms of ships and boats. The most maritime people are the inhabitants of the Admiralty Islands, but the Feejeeans and the Melanesians generally are not remarkable in this respect (*pl.* 8, *figs.* 1, 4; *pl.* 10, *figs.* 1-5; *pl.* 13, *figs.* 6, 8, 9). The Melanesians are all enthusiastic fishermen, using with great dexterity nets and hooks (*pl.* 12, *figs.* 5, 7) as well as spears (*pl.* 9, *fig.* 8). In a word, they show great technical skill; their weapons and tools are often artistic and handsome (*pl.* 7, *figs.* 6, 8; *pl.* 9, *fig.* 10; *pl.* 12, *fig.* 11), and they alone of all the inhabitants of Oceanica understand the art of making earthen vessels, often of elegant model (*pl.* 13, *fig.* 3).

Musical Instruments.—They have numerous musical instruments. Trumpets made of mussel-shells and Pan's pipes are to be found everywhere (*pl.* 9, *fig.* 5; *pl.* 13, *fig.* 10); as also flutes (*pl.* 9, *fig.* 22), which are often played with the nose, bamboo sticks or wooden chests covered with skins to serve as drums (*pl.* 9, *fig.* 11), and long bamboo tubes (as in Australia), which are struck in accordance with the rhythm of the song (*pl.* 13, *fig.* 10). Nevertheless, the musical performances of the Melanesians cannot be said to be of a high standard.

Amusements, Literature, and Commerce.—They everywhere indulge in dances at night, at which they appear in festal costumes and dance either in rows opposite each other or singly. Conjurers, such as we find represented in Homer, amuse the Feejee Islanders. Notwithstanding many pretty legends, poetry has made but small advances among this people, except in the Feejee Archipelago. Here we find a peculiarly poetic speech, a regular formation of verse and rhyme, and a few scattering poets, who are believed to derive their inspiration from the gods. We may also mention their prose recitations, which are highly developed, and a certain kind of eloquence to which they are addicted, and which they admire very much.

All the Melanesians show a decided aptitude for commerce. They also have the means of reckoning time—by the moon, by monsoons, etc.—as well as the knowledge of many constellations of which the Feejeeans are ignorant. On the whole, we must recognize the Melanesians as an able people. Morally, they do not stand high, though it is difficult to pronounce judgment upon them as a whole. They are frightfully barbarous and bloodthirsty, cowardly, revengeful, proud to the uttermost, and much given to lying; which bad qualities are most conspicuous in the Feejeeans, the most advanced of them all. Many of the less-cultivated tribes are more good-natured, friendly, and light-hearted. All are very religious, and in sexual relations tolerably constant.

Marriages and Social Life.—The women have a hard lot, for, with the exception of the boat- and house-building, they have almost all the work to do. Polygamy prevails everywhere—at least, where the men are capable of supporting a number of wives. Children are often betrothed, and marriage is generally accomplished by forcible abduction of the bride. We frequently see great tenderness in the family; in spite of which, the mur-

der of infants and of old and sick persons used to be practised throughout the whole region, and particularly among the Feejeeans.

As a service of love from their children the aged asked to be put to death. This was accompanied with great festivities, as were also the birth and the naming of the child, its circumcision, and marriage. Their social and political life gave occasion for many other festivals. On the Feejee Islands the *cava* liquor played a great part at all these; it is the intoxicating juice of a species of pepper which is sacred to the gods, and is drunk exclusively by the better classes and only from special sacred cups, which are known by their shape (*pl. 12, fig. 16*).

Sacrifices and Cannibalism.—Human sacrifices and eating human flesh were indulged in at these festivities, which always took place in the temple square. Plate 13 (*fig. 11*) contains the picture of such a feast. The grossest cannibalism prevailed everywhere in Melanesia, though least of all, perhaps, in New Guinea; it was a sacred institution, the instruments which were employed in it being used for nothing else. Thus, the Feejeeans had special forks for human flesh, each of which had a distinct name (*pl. 12, fig. 24*), and the New Caledonians had a disk of serpentine, called the "grave," with which they ripped open the bodies of the dead, and an instrument made of human bones (which were much used for making utensils, and especially weapons and ornaments, *pl. 9, figs. 1, 15*), with which the intestines were drawn out (*pl. 12, figs. 13, 15*). Women and children were excluded from these terrible repasts. Human beings were frequently slaughtered in order to be eaten, but for the most part they ate their fallen enemies.

Wars and Weapons.—Their battles and their celebrations of victory were very sanguinary; consequently, the making of peace was correspondingly solemn. The weapons peculiar to Melanesia are the bow and arrow (*pl. 9, figs. 17, 18*), which are wanting in the rest of Oceanica; besides these, they have slings—the New Caledonians carry a bag of sling-stones at their girdle (*pl. 9, fig. 25*)—spears of various kinds, often supplied with a barbed hook (*pl. 8, fig. 3; pl. 9, figs. 2, 3, 8, 9; pl. 12, figs. 10, 18*), which were usually thrown by an elastic hurling-stick (*pl. 9, fig. 25*); wooden and stone clubs (*pl. 12, figs. 14, 17*), maces (*pl. 9, fig. 25*), swords, daggers (*pl. 9, figs. 10, 24*), and various sorts of shields. Fortified places are also frequently mentioned, and the Europeans found those of the Feejeeans impregnable. At present guns are almost the only weapons of the more civilized regions (*pl. 13, fig. 11*).

On account of the great number of distinct tribes on the different islands, wars were very frequent. These tribes were led by chiefs who rarely possessed great authority and seldom bore any distinguishing mark, although in New Caledonia they wore a special cap (*pl. 12, fig. 6*). On the Feejee Islands, however, the kings and the lower chiefs were held in the highest—even in idolatrous—veneration, and possessed great influence. They had power, for example, to pronounce the religious interdict, the taboo, on whatever they chose, and, in consequence, the tabooed article

was permitted to them alone. There were various marks to show that a thing was tabooed; the leaves and fruit of the cocoa-palm often served this purpose (*pl.* 12, *fig.* 25). The taboo prevailed throughout all Melanesia. The priests were next in rank to the chiefs; the slaves were the lowest grade. Rank as well as property was inherited through the mother. There were various judicial institutions, punishments, oaths, and ordeals.

Religious Belief.—Their religion was like that of the Polynesians generally, only more sterile and prosaic. They believed in personal deities, and also in guardian spirits, and the souls of their ancestors were of particular consequence. Idols were common; the guardian spirits especially were represented (*pl.* 9, *figs.* 20, 24; *pl.* 13, *fig.* 12), and the sacred stones of the Feejeeans (*pl.* 13, *fig.* 2) were nothing but miniature images of their ancestors, as is shown by the belts with which they were sometimes adorned. Priests, temples, and sacrifices were found everywhere; the priests were also magicians, fortune-tellers, weather-sages, and physicians. For here, too, disease was considered nothing but demoniacal possession, although they also used some medicine.

Death and Burial.—The dead were mourned by loud lamentations, which (at least in the Feejee Islands) gave place to a succession of festivities. Women and slaves were sacrificed at the graves of men of rank. The dead were either buried, a little house being built over the grave, or else were left to decay on an open scaffolding. The skulls were preserved at home or (in the northern districts) they were all placed in special richly-adorned enclosures, which were erected deep in the woods (*pl.* 11, *fig.* 10); for nothing was considered more dishonorable than that the enemy should gain possession of the remains of the dead and make drinking-cups or tools or arms out of them. They held that the soul feels what the corpse suffers. Coffins were often made skiff-shaped.

Social Condition.—The Feejeeans illustrate the abilities of the Melanesian race, but, as many of the tribes are in very unfavorable conditions, we must not be surprised to find marked differences as to civilization and character. Christianity, being taught in a sensible manner by the Melanesian missionaries, is now making progress on the uncivilized islands. Almost all the Feejeeans are nominally Christians—many of them really such. They have proved themselves quite capable of receiving European civilization. The other Melanesians seem equally capable, but many of them have had but little and others only a hostile contact with the whites, generally through the fault of the latter.

Languages.—Their languages also show the remarkable capability of the race. They are polysyllabic, and replace declension as well as conjugation by added particles, which, however, are blended with the root less frequently than in the Australian dialects. The real centre of the language is the personal pronoun, which has, besides the singular number, several multiple numbers (a dual, a trial, and a plural), and on its various forms depend the person and the number of the verb. The

phonetic system of the dialects, of which there are many, is strong and rich.

3. THE POLYNESIANS AND MICRONESIANS.

The islands of Oceanica are divided into flat coral and high volcanic islands. A single coral-reef enclosing in its midst a shallow sea or lagoon often contains several small islands or develops into a complete ring (*pl.* 15, *fig.* 2), or even into a large flat island. The soil, however, is but slightly productive, and is almost destitute of water, and the variety of plants is very limited; pandanus, cocoa-palms, bananas, and bread-fruit trees—the latter somewhat scarce—are about the only nutritious products. There are scarcely any animals, and life is extremely monotonous and quiet. The elevated islands are also unfavorable, as they are generally uninhabitable on account of their steep and high ascent, and possess neither a varied plant system nor animal life of any importance. The islands farthest to the west are the richest.

Physical Characteristics.—The Polynesians and the Micronesians, although they migrated separately, differ so little that we may class them together. They cast much light upon the Melaneseans and their most developed tribe, the Feejeeans, because the Polynesians, while closely related to them, are more highly developed and better known. The inhabitants of the high and fertile islands are better developed physically than those of the flat islands. Their color is a light copper-brown which shades to dark olive-brown in the lower islands, and at times to the lightness of the European complexion. The Micronesians are, on the whole, somewhat darker, though among them also are found tribes of a light-yellowish color. The hue varies in the same archipelago, and even on the same island, the lower being darker than the better-cared-for upper classes. Occasionally there are some perfectly dark individuals whose hair is almost woolly. The hair generally is found straight, although always with a tendency to curl, and often it is very curly (*pl.* 16, *fig.* 12; *pl.* 18, *figs.* 3, 8). Among the Micronesians straight hair predominates (*pl.* 14, *figs.* 1, 5; *pl.* 15, *fig.* 5; *pl.* 16, *fig.* 3). Hair on the body and face is generally scant, begins to grow later, and is for the most part pulled out; but the natives of some of the smaller islands form exceptions. On the high islands the figures and features of the inhabitants are often very fine; but the broad, full nose, which is frequently aquiline (*pl.* 15, *fig.* 5; *pl.* 20, *fig.* 8), and the thick lips, the upper one often projecting in triangular form (*pl.* 20, *fig.* 8), always remain. The skull is high and narrow and the back of the head often flat, the flatness being sometimes produced artificially. The lobes of the ears were universally bored; different kinds of ornaments were worn in them, often rolled palm leaves, which widened them enormously (*pl.* 16, *fig.* 3), so that they sometimes hung down on the shoulders, or could even be drawn over the head. A very simple form of circumcision prevailed everywhere in Polynesia.

Tattooing, which pertained principally to the men, was of the greatest

importance. It was entirely a religious institution, and its original object was to imprint on the subject the form of his guardian spirit or the images and signs of his ancestors. For this very painful and lengthy operation they had peculiar instruments, sharp-toothed combs of various sizes, which, after being dipped in the coloring substances, were driven into the skin by suitable hammers (*pl.* 19, *fig.* 2). Often the entire body was decorated with such pictures, even the bare-shaved top of the head (*pl.* 19, *fig.* 6). The designs were different according to the islands (*pl.* 19, *fig.* 6; *pl.* 20, *fig.* 9), the sex, and the rank; a few specimens, which are miniatures of the human form, are shown on Plate 19 (*figs.* 7, 9). In Micronesia the custom was less developed, and striped designs were preferred (*pl.* 15, *fig.* 5; *pl.* 16, *fig.* 3). With the advance of civilization the practice decreased everywhere, and among the Tahitians, for example, there are now only relics of it (*pl.* 18, *fig.* 8).

Dress.—Our plates give all necessary information about dress. It varied according to the islands, being most abundant on 'Tahiti, where a long strip of stuff was twined about the hips, and a sort of cloak, sometimes only a coarsely-woven mat (*pl.* 18, *fig.* 3), was worn on the shoulders. Festivities demanded particular adornment, and there were special costumes for female dancers (*pl.* 18, *fig.* 9) and for warriors. In New Zealand cloaks of fur were frequently worn (*pl.* 20, *fig.* 13), and the Hawaiian chiefs had precious cloaks made of plumes; frequently the people went entirely naked, especially when at work. The Micronesians for the most part wore only an apron of ravelled leaves (*pl.* 14, *fig.* 5; *pl.* 16, *fig.* 3), but sometimes over-garments resembling shirts (*pl.* 14, *fig.* 4; *pl.* 16, *fig.* 5). The material, which they dyed in gay but not very durable colors, was made of the bark of trees beaten by peculiar flails (*pl.* 16, *fig.* 11), the four sides of which sometimes had different carvings. The single pieces were pasted together, and the coarser strips sewed (needle, *pl.* 16, *fig.* 10); of the latter sails, bed-matting, and wall-mats were made.

Dwellings.—Building is almost everywhere very simple (*pl.* 14, *fig.* 4; *pl.* 15, *fig.* 6; *pl.* 16, *fig.* 5). Artistic huts were woven in some of the Caroline Islands (*pl.* 14, *fig.* 3); on Nukahiva, of the Marquesas group, all houses had stone foundations. There were villages everywhere, each with its assembly-hall, sometimes very large (*pl.* 20, *fig.* 14), and frequently with an open place before it (*pl.* 15, *fig.* 6). Within, the houses were strewn with mats, which served as seats and beds (*pl.* 14, *fig.* 1). In some places the women carried such mats fastened to their belts (*pl.* 14, *fig.* 1). Otherwise, the furniture was very simple (*pl.* 16, *fig.* 6; *pl.* 17, *figs.* 6, 8, 10). Stone structures were also found. Strange half-subterranean painted chambers were discovered in the Waihu Mountains, and the still more wonderful ruins of Ponapi, of the Caroline group, were formed of concrete walls of gigantic structure, with interjacent platforms, from which descent was had to subterranean chambers (*pl.* 15, *fig.* 4). In our illustration, A indicates the outer wall, 25 feet high, 6–10 feet thick, the longer side 236 feet long and the other 162 feet; B is the inner platform,

which is lower at M and M; F represents the subterranean chambers; O, Q those which were not measured; C is the inner wall, 14 feet high, 6 feet thick, and 95 feet long; D, the inner platform; E, broad steps of a high pyramidal structure over one of the chambers; K, L, entrances; H, an opening in the wall. On the Marianne group (*pl. 16, fig. 1*) are found ruins of the old stone pillars on which cane houses were erected. Also in Oceanica these houses were formerly sometimes built on pillars or piles (*comp. pl. 13, fig. 5*).

Technical Skill.—The Polynesians and Micronesians are especially skilful at sea. Their larger vessels almost invariably have outriggers, but not the smaller craft, which are made from hollowed tree trunks (*pl. 17, fig. 7*). The catamaran or double-boat form is largely in use (*pl. 17, fig. 11; pl. 18, fig. 10*). The keel of the larger vessels consists of one or more logs, to which the planks are fastened by cocoa-fibres. The sails are almost always triangular. There are different kinds of vessels—pleasure-boats with a platform deck (*pl. 17, fig. 11*), freight-vessels (*pl. 18, fig. 10*), passenger-boats (*pl. 14, fig. 2; pl. 15, figs. 1, 3; pl. 19, fig. 5*), fishing-skiffs (*pl. 17, fig. 7*), and war-ships—for they even indulge in sea-fighting—some of which are 30 feet long, and in New Zealand, for instance, skilfully carved and decorated (*pl. 20, fig. 15*.) The standing figures in the last-named illustration are the singers, who by means of peculiar songs keep time for the rowers. The oars are long and pointed (*pl. 17, fig. 11; pl. 19, fig. 5; pl. 20, fig. 15*).

These people were exceedingly skilful in carving, especially the Maoris of New Zealand. They had finely-carved boxes (*pl. 20, fig. 7*) and very pretty door-ornaments (*pl. 20, fig. 2*), and their weapons and utensils were alike decorated. Their arms consisted of clubs (*pl. 17, fig. 2; pl. 20, figs. 3, 4, 5, 10*), among which those made of nephrite (*pl. 20, fig. 4*) were especially valuable; different spears (*pl. 17, fig. 3*), wooden swords (*pl. 14, fig. 6; pl. 16, fig. 7*), hatchets (*pl. 20, fig. 13*), daggers, and slings. Stone hatchets with wooden handles (*pl. 10, fig. 8*), etc. were generally used by them at their work. Handsome plaited work (*pl. 17, fig. 10*), fans (*pl. 19, fig. 6*), carved gourds, etc., were in common use; while the wooden vessel on Plate 14 (*fig. 8*), which represents a bird and was carved in Micronesia, deserves mention, as it is of unusually fine workmanship.

Poetry, Music, Games, and Festivals.—As the Polynesians had many games (stilts, on Nukahiva, *pl. 19, fig. 8*; swings, *pl. 20, fig. 6*; kites, checkers, ball-playing, etc.), so were they also susceptible to poetry. The epic poetry of the Maoris is very remarkable; there is no lack of pretty lyric effusions, of rich sententious poetry, even of traces of mimic representation, and also a certain eloquence cannot be denied them. They had many musical instruments—drums (*pl. 16, figs. 4, 5*), shell trumpets (*pl. 14, fig. 5*), flutes, single and double, which were in part played with the nose (*pl. 18, fig. 3*), and long pieces of bamboo, which were sounded by striking (*pl. 17, fig. 1*). There was no dance without music, no festival

without dancing; they danced throughout entire nights, generally in crowds, all making the same movements (*pl.* 17, *fig.* 1). They had numerous feasts, at which the cava-liquor and the ceremonies connected with its drinking played a prominent part. They were not wanting in ceremonies and in forms of etiquette, especially toward individuals of rank, whom they considered sacred.

Wars.—Their frequent wars, which often arose from trivial causes, were frightful—not, indeed, on account of the bravery of the Polynesians, for they are not at all brave, but rather on account of the stratagems they employed, the secret nocturnal attacks, especially on the defenceless, and the terrible slaughter after victory, which spared neither woman nor child, and which was perpetrated with the most atrocious cruelties. The Maoris alone possessed a certain heroism. Jeering challenges, insults of the enemy, wild war-songs, and religious consecrations preceded every battle, at which certain priests were always present. Cannibalism no longer prevailed in Micronesia at the time of its discovery; still, specially-valued ornaments—for example, bracelets, which only the chiefs were allowed to wear (*pl.* 10, *fig.* 8)—were made of human bones. In Polynesia, however, cannibalism still existed in many places, especially in New Zealand; but it was almost extinct in the island-groups of Tahiti, Tonga, Samoa, and Hawaii.

Social Life: Marriage and Rank.—The women, on the whole, were not badly treated, although, in comparison with the men, they were considered profane, and consequently were deprived of the best parts of the food. Their position differed in the different islands. Before marriage absolute freedom existed everywhere, which in some parts of Polynesia degenerated into an extreme licentiousness that was not improved by the arrival of the Europeans. Marriage itself was strict, but, being contracted without any special ceremony, it was easily dissolved. It seldom received religious consecration, and then only among the higher ranks. Stealing away the bride was not unusual in New Zealand.

Polygamy appertained to the rich; frequently a poor man could not marry, being unable to support a wife. Family life, though close among the better classes and in individual groups, was, on the whole, very loose. Infanticide, especially of girls, prevailed to a frightful extent. Nevertheless, rank was inherited through the female, and nowhere was there a stricter separation of classes than here. Properly, there were but two classes—people of rank and common people. A third class, the land-holders, had grown up between them, sprung by collateral descent from the former; and a fourth class, the slaves, was formed below the common people. The first class alone possessed souls, for they were directly descended from the gods; consequently, they had a claim on all property and on the lives of the people; they alone were connected with the gods, gave judgment, etc. All learning also was in their hands—a fair knowledge of geography, some astronomy, nautical information, knowledge of the year of ten or twelve lunar months, in all of which branches the sons of the nobility were instructed, generally by means of poetry.

Originally this nobility was also the priestly caste; later on the secular power was separated from and gained superiority over the spiritual, often through the efforts of a single sovereign or of all-powerful families; in New Zealand alone the differences of rank were more equalized. Intermarriage of the classes was a crime; consequently, the children of such intermarriages must be killed at once. Here we see the religious views of the Polynesians put into actual political practice. Everything else relating to the gods was withdrawn from the people, and hence the extraordinary power of the *taboo*—*i. e.* the religious interdict which the chiefs and the priests could pronounce over every object; for whatever belonged to the gods, temples, pictures, etc., was *taboo*. Every one had the greatest moral dread of violating such a *taboo*.

Religious Belief.—The religion of the Micro-Polynesians was also disfigured by the sanctity ascribed to their chiefs. In earlier times they had powerful individual deities, amongst which Tangaloa, the god of the sky, and Maui, the god of fire, both honored as creators of the world, were specially prominent. Besides, every act, every train of ideas, had its special divinity. In addition to these, they venerated the guardian spirits, whose images were placed or erected everywhere—on the edge of the temple squares (*pl.* 20, *fig.* 1), at the entrances of the villages, on houses (*pl.* 20, *fig.* 2), ships (*pl.* 20, *fig.* 15), arms, and utensils (*pl.* 19, *fig.* 8). Even entire islands were surrounded with them; the famous colossal statues of Easter Island (*pl.* 20, *fig.* 11) are nothing but images of such guardian spirits. Even in early times the souls of the departed were venerated; and this worship took such dimensions that they were not only numbered among the tutelary divinities, but obscured the chief gods, while in Micronesia they even supplanted them. The people believed that the soul after death, in order to become clean, had to be devoured and voided by a god. This piece of friendship was generally rendered to an individual by his guardian spirits, who were consequently always represented with horrible mouths and projecting teeth (*pl.* 20, *figs.* 1, 2, 15).

Idols, Temples, and Priests.—Idols existed everywhere in Eastern Oceanica, more rarely in Western. We have given illustrations of some: the Raratongan idol (*pl.* 17, *fig.* 9) is about sixteen feet long. The idol is the inner piece of wood, which only the priest was permitted to worship; twisted about it was a wreath, which we portray at the side of the image (*fig.* 4), and which was called the "soul of the god." Figures 4–6 (*pl.* 18) show idols of Tahiti; Figure 6 (*pl.* 18) represents Tangaloa, with all the lesser deities, his offspring; Figure 7 (*pl.* 18), another god, with three sons; Figure 5 (*pl.* 18), the soul of an ancestor; Figure 4 (*pl.* 18), deities of the fishermen, from a skiff. They also had female gods and idols.

Their temples were of different sorts—sometimes only flat stone terraces variously divided; sometimes pyramidal stair structures of huge blocks of stone (*pl.* 19, *fig.* 1), on the top of which idols were occasionally placed; sometimes a collection of large and small houses within a

common enclosure (*pl.* 20, *fig.* 1). They were usually situated in sacred groves on a mountain or on the seashore. The strange building of Ponapi (*pl.* 15, *fig.* 4) was probably a temple-structure, serving, at the same time, as a fortification. Offerings were very numerous: they consisted of animals, swine (*pl.* 20, *fig.* 1), fruit, material for garments, etc., and they were often brought in great quantities. The priests for the most part constituted an hereditary caste, and were very powerful in Polynesia, but of less importance in Micronesia.

Burials and Monuments.—The souls survived in the Hereafter; and as they, being haunting spirits, were very dangerous, especially when angered, it was sought in every way to gain their favor by solemn mournings and interments, whose attendant ceremonies were often exceedingly strange and protracted. In Tahiti, for instance, the *heva*, the nearest relative, clad in a strange costume, walked about the grave for a number of days and maltreated with his toothed staff (*pl.* 19, *fig.* 3) every one he met. At other graves, at the death of a person of rank, a sham battle was enacted or a universal destruction of property took place. The corpses of the common people were buried in a sitting posture, but those of individuals of rank were laid on a wooden frame (*pl.* 19, *fig.* 3), and after the flesh had decayed the remains were brought to the general cemetery (*pl.* 19, *fig.* 4), where flat boards with scalloped edges were erected as images of the souls or as guardian spirits, and rich offerings were made to both on the altars. In New Zealand wooden memorials, wound around with cloths and engraved with the tattooing of the deceased, were erected to the dead (*pl.* 20, *fig.* 9), or stones were set up in the ground to their honor; the circle of huge blocks on Rota (*pl.* 16, *fig.* 2) is such a graveyard. Diseases were cured by the priests.

Status.—Without doubt, the Micro-Polynesians are a highly-gifted race. This is sufficiently evident from the manner in which they were able to assimilate the new religion, together with the civilization, which was thrust upon them so suddenly and often with such hostile methods. Nevertheless, great commotions occurred among them, and, corrupted as they were by European vices, they rapidly diminished. But Hawaii, for example, based on the excellent foundation which the able king Kamehameha (*pl.* 19, *fig.* 10) gave it in the first half of this century, has almost raised itself to the level of a modern state. Things are worse in New Zealand, partly because of the discord of war among the Maoris when the Europeans came, and partly by reason of the immigration of the English and their utter disregard of the natives.

Dialects.—The Polynesian dialects agree in fundamental character with those already treated and with the Malayan idioms, but reveal a marked relaxation in the phonetic part as well as in construction. The Micronesian dialects are more vigorous; otherwise, they are closely related in structure to the Polynesian.

4. THE MALAYSIANS AND MALAGASSIES.

Physical Characteristics.—The Sakalavas on Madagascar are much intermixed with Africans. The Hovas, the pure Malays of the island, are of middle height, fine slender build, light olive complexion, for the most part with short and frizzly but also with long and straight hair, broad full nose, and full lips with a projecting upper lip (*pl.* 28, *figs.* 4, 13). It is more difficult to speak about the Malaysians, as they, comprising so many different stocks, show an equal variety of forms. Their stature is in general only medium, frequently not even robust; for example, the pelvis of the Javanese woman is small-boned, narrow, and from round to oval (*pl.* 1, *fig.* 11, *b.*).

Complexion and Hair.—Among the Malays proper the complexion varies from olive to copper color; among the Sumatrans, from light to yellow; among the Javanese, from brown to gold yellow; among the Dyaks, again, lighter to yellowish white; among the Tagalas, from dark brown to copper-red and light yellow; the same among the inhabitants of Celebes; while on the eastern islands it darkens into blackish. But the inhabitants of the Moluccas are also frequently of a golden yellow. The hair is black, coarse, straight, frequently frizzled or wavy; in some tribes very curly, in others, particularly in the East, bushy. The beard and the hair of the body are very scant.

Skull.—The form of the skull is in general broad and high (*pl.* 21, *fig.* 5), the back of the head sometimes flattened, sometimes curved (measurements: Dyaks: breadth, 75; height, 77. Macassars of Celebes: breadth, 78; height, 78. Madurese: breadth, 82; height, 82). The cheek-bones are broad and high, mostly projecting, the root of the nose always lying deep, sometimes artificially pressed in, the nose itself full and fleshy, sometimes curved (*pl.* 21, *fig.* 10), the mouth thick and large (*pl.* 21, *figs.* 3, 6; *pl.* 22, *figs.* 15, 16, 21; *pl.* 28, *figs.* 1, 2). Piercing the ear-lobes, sharpening the incisor teeth, and also artificial shaping of the skull are general customs. Circumcision is rare in Malaysia, but a very simple form prevails in Madagascar.

Costume.—The dress of the Malagassies is shown on Plate 28 (*figs.* 3, 13, 14). In Malaysia it is of different kinds, consisting, among the more civilized peoples of the West, of wide pantaloons, which often reach but to the knee and are worn only by the men; of the sarong, a piece of cloth which is fastened skirt-like around the waist; of a jacket, which only the men wear, and a kerchief for the head (*pl.* 21, *figs.* 3, 4, 7, 8; *pl.* 22, *fig.* 18). The Tagalas dress somewhat differently (*pl.* 26, *fig.* 1). A fez-like cap (*pl.* 21, *fig.* 12; *pl.* 24, *fig.* 2) is usual in Western Malaysia. The uncivilized tribes are more or less nude, with the exception of a loin-cloth and the head-kerchief (*pl.* 22, *figs.* 21, 22; *pl.* 23, *fig.* 1; *pl.* 24, *fig.* 3; *pl.* 26, *fig.* 2; *pl.* 27, *fig.* 23); other particulars are shown by our plates. They have different ornaments for different festivals, at the most solemn of which they also have the upper part of the body nude (*pl.* 21, *figs.* 2,

12). Tattooing is now practised only among the uncivilized tribes; for instance, the Dyaks (*pl. 22, fig. 21; pl. 23, fig. 1*).

Architecture: Temples and Dwellings.—That the architecture of the Malays should be excellent is but natural, considering their high state of culture. The large and magnificent stone temples of Java are famous (*pl. 22, fig. 1*). Their dwelling-houses are made of wood, the walls generally of bamboo matting, and the roofs of straw or leaves. Form and details are shown in our plates (*pl. 22, figs. 20, 22; pl. 23, figs. 1, 6; pl. 25, figs. 1-7; pl. 26, figs. 2, background, 18; pl. 27, fig. 25; pl. 28, figs. 3, 14*). The entire house—or, at least, the projecting roof—rests on wooden pillars. The dwellings of persons of rank are generally adorned with carving (*pl. 27, fig. 25*); they contain several apartments besides an outlying kitchen. There were also wooden fortifications erected on the mountains (*pl. 23, figs. 2, background, 6*).

Agriculture, Food, and Stimulants.—Agriculture is highly developed; rice, spice, coffee, tea, sugar, maize, and innumerable other plants are cultivated—in some places, however, only for individual use. Some implements are shown on Plate 22 (*figs. 3, 4*), Plate 27 (*figs. 1, 2, 4, 9, 15*).

The chief food of the East Malaysians is sago. They crush the pulp of the ripening stem with a hard-wood club to which a flint top is attached (*pl. 24, fig. 7*). The pulp is then cleansed and strained through a sieve (*pl. 24, fig. 4*), and is baked in small earthen stoves. Rice in various preparations (*pl. 24, fig. 9*) and fish are staple articles of food; meat is eaten more rarely, although cattle-breeding is quite extensively conducted, and the buffalo, for instance, is employed as a draught and working animal. As stimulants they use opium, tobacco, spirits, and, above all, the betel-nut, the leaf of which, together with the nut of the areca palm and a little chalk, they continually chew; all these they carry with them in neat boxes. Besides what has been mentioned, the Malays have very many utensils and movable articles, as is to be inferred from their varied technical ingenuity. They have many sorts of table-ware of some degree of fineness (*pl. 24, fig. 6; pl. 26, figs. 13, 14*).

Industrial Arts.—They are skilled in spinning, from yarns (*pl. 28, fig. 5*) up to ship cables (*pl. 26, fig. 15*); in all kinds of weaving, dyeing in high colors, leather fabrics (*pl. 22, fig. 2*), metal-working, and especially in filigree ornaments, carvings, etc.; also in mining and different mechanical trades. Bamboo canes and cocoanut-shells are much used, the former as receptacles for water (*pl. 24, fig. 6*); and they have also vessels of other materials (*pl. 27, fig. 20*), boxes, etc. (*pl. 24, fig. 8*). Plate 28 (*fig. 14*) represents female slaves of the Malagassies carrying water in bamboo canes. The cocoanut-shell is carved into spoons, vessels, etc. (*pl. 22, fig. 11; pl. 26, figs. 5, 6, 7, 13*).

The Malaysians have many earthen and metal vessels of different sizes and for various purposes, but the *tampajans* of the Dyaks (*pl. 23, fig. 4*) demand especial mention. These are large glazed receptacles of very

ancient and probably Asiatic origin, decorated at the top with the figure of a lizard or a dragon, and supposed by the Dyaks to possess wonderful virtues and to be of divine origin. For this reason fabulous prices are paid for them. Among the industries of the Malaysians, iron smelting is noteworthy on account of the peculiar bellows employed (*pl.* 24, *fig.* 1; *pl.* 27, *fig.* 12), and they are also skilful in metal-boring (*pl.* 27, *fig.* 13). A primitive gun-barrel borer is seen on Plate 27 (*fig.* 14); the massive iron beam is set in the ground, and two boys turn the arms of the lever of the borer, to which a sack of stones gives the necessary weight.

Weapons.—Especial care is given to the construction of their weapons, especially to their favorite *kris*, a long sword-like dagger, which is carried in the belt without a sheath, and without which no Malay of rank goes forth (*pl.* 21, *figs.* 2, 8, 9, 10, 12; *pl.* 22, *figs.* 18, 21; *pl.* 23, *fig.* 3; *pl.* 26, *fig.* 3; *pl.* 27, *figs.* 3, 5, 6, 7, 8). Only a few peoples of the East (Bugis, *pl.* 26, *fig.* 2; Tagalas) have bows and arrows; in the other parts of Malaysia these are replaced by blow-guns with poisoned arrows (*pl.* 27, *figs.* 17–19), spears, which are sometimes thrown from peculiar slings (*pl.* 28, *fig.* 6), clubs, maces (*pl.* 28, *fig.* 7), swords (*pl.* 21, *fig.* 8; *pl.* 22, *fig.* 21; *pl.* 23, *figs.* 1, 3; *pl.* 26, *figs.* 1, 2, 3), wooden shields (*pl.* 23, *fig.* 1); and firearms are now in general use. They manufacture a coarse kind of powder (*pl.* 28, *fig.* 12, powder-horn).

Commerce.—The Malaysians have ships of all kinds, from the simplest skiff without outrigger to the three-master of the Malays of Malacca, and of different European models, which these people have now adopted. Their smaller vessels have generally the outrigger, which seems to be an ancient Malayan invention. From the abundance of material we select but one illustration (*pl.* 26, *fig.* 17). Some of the Malaysians live altogether on their boats. From all this it is not surprising that trade throughout Malaysia should be very important; people of the highest rank engage in it. Plate 27 (*fig.* 23) shows how lively the mercantile places of the remotest districts are. Voyages to New Guinea and Northern Australia are not unusual.

Fine Arts and Musical Instruments.—Their art-works also deserve notice. Painting and sculpture are not so remarkable, although they paint much and characteristically, as is shown by the superb head of Buddha now in the Munich Glyptothek, which is from Java (*pl.* 22, *fig.* 11). It as well as their temple architecture shows Indian influence. On the other hand, their music is of indigenous growth. Besides flutes of all kinds (*pl.* 24, *fig.* 10; comp. also the expanding Pan's flute, *pl.* 28, *figs.* 8, 9), drums, and long bamboo sticks, which they strike, they have gongs and wooden or metal basins of different sizes, frequently several small ones being hung in a frame (*pl.* 21, *fig.* 11); further, they have trumpet-like and guitar-like instruments (*pl.* 28, *fig.* 10), which last are struck with metal rods; and violin-like instruments, the metal strings of which are played with bows (*pl.* 27, *figs.* 10, 11; *pl.* 28, *fig.* 10).

Vocal Music, Poetry, and Entertainments.—They also have fine voices and correct ears, and sing much, often during entire nights, in domestic entertainments or at dances and festivities. They also sing when at work, especially when rowing, and, though their songs are monotonous, they often sound quite agreeably. Singing is inseparable from their poetry. Even their dramatic performances, which are chiefly executed by women in masks (*pl. 22, fig. 12*) and concluded with a marionette play (*pl. 22, fig. 13*) or show, are often sung. Naturally, such representations are to be found only among the most advanced peoples of these regions. The poet composes his melodies himself. Their poetry is plentiful. They have long epic poems about the deeds of their ancestors, hymns about the creation of the world, etc., and a quantity of short, four-lined, generally improvised lyric poetry, the so-called *pantuns*. They also enliven life by their games, which are innumerable (for instance, *pl. 26, fig. 16*); among others, they are passionately fond of cockfights (*pl. 26, fig. 1*).

Social Life.—Social life is regulated by very strict etiquette and highly-developed politeness. In the larger places all, men and women, can read and write Arabic, and several alphabets have been invented or adapted by these peoples. There can be no doubt as to the high intellectual capabilities of the Malaysians.

Matrimony.—There are three kinds of matrimony: in the first the husband buys the wife; in the second both are equal; in the third the husband is a sort of servant to the wife. Rank, nobility, and property are transmitted through the wife, on whom, though she generally stands below the husband and is often ill-treated, all relationship is based; and this is politically of the greatest importance. Polygamy is permitted. Marriages are performed with ceremony and with festal pomp (*pl. 21, fig. 2*). The family life is affectionate, though infanticide is frequently practised. The naming of a child gives occasion for a feast, at which, in some neighborhoods, ablution with water takes place. The feasts are chiefly religious, though they are given for other reasons—for example, after convalescence—and they are expensive, since eating and drinking constitute their chief features.

Government.—The earliest constitution of Malaysia was, like that of Polynesia, patriarcho-religious, so that the king and the noble families exercised a despotic power. This has been almost entirely retained among the Hovas, and it is further shown in the peculiar language which in some places the common people are obliged to use to the nobles, and in the court-costume, which in ancient Tahiti as well as in Java requires the upper part of the body to be nude (*pl. 21, fig. 12*). The people of rank have, of course, the comforts and luxuries of life more plentifully than the lower classes; for instance, only they possess the precious *tampajans*, and (in Borneo) they are carried in special sedan-chairs (*pl. 23, fig. 5*). But many of the old customs have been moderated or abolished by Mohammedan and Christian influence.

Justice was originally based on this patriarchal foundation. Joint

responsibility and blood-revenge prevail extensively in Malaysia, but money-payments compensate for all crimes, even for murder or privation of liberty. Penal slavery is prevalent, and slavery, slave-hunting, and slave-dealing are widespread. There are many punishments for smaller offences; as, for instance, among the Hovas criminals are compelled to wear heavy rings around the neck or to carry blocks of wood in their arms. The figure on the left (*pl. 28, fig. 3*) is an example. Judicial disputes are also often decided by duels, oaths, and ordeals. Single combats frequently occur in the wars, and the wars often arise from judicial disputes.

Warfare.—The armies generally have champions, who, fantastically attired (*pl. 21, fig. 1; pl. 27, fig. 22*), challenge the hostile champions to single combat. The heralds and messengers of peace are also fantastically adorned (*pl. 22, fig. 17*), and the warriors themselves are not less prone to excessive decoration (*pl. 22, figs. 8, 10*)—at least among the less civilized peoples; among the Javanese, however, the military costume differs but little from the usual dress (*pl. 21, fig. 8*). The manner of warfare is less barbarous than that of Polynesia, but otherwise very much like it, stratagems and sudden attacks being frequent, and poisoned foot-traps very general. There are but few traces of cannibalism among the Malaysians, yet the accumulation of heads of the enemy is a chief object in war—nay, even private excursions are made for this very purpose; and they usually have special knives, which are used for no other service than this “head-hunting” (*pl. 27, fig. 16*).

Character of the Malaysians.—To present in one view the character of the Malaysians is very difficult on account of the different development of the single tribes; we therefore give some general traits. They possess a sort of good-nature which easily drifts into indolence and laziness. At the same time, they are vain, ambitious, easily offended, and when offended very revengeful. Their great capability of dissimulation tends to turn their anger into malice and their avarice into craftiness and fraud. When uncorrupted, they are faithful and honest among themselves. On the whole, they are cheerful, and are not lacking in valor, and even chivalry, which impels them to the “noble passion” of piracy. In spite of their moderation, they are very passionate; they easily get into a sort of madness, in which they run about and destroy or slay all they meet. This is called “running amuck.” The barbarous Malaysians are merry, open-hearted, and talkative; but wherever a higher civilization is attained, honesty is first lost, often also temperance; dissimulation, craft, and shrewdness increase; gambling becomes common, and passion hides itself beneath apparent calm and outward earnestness.

Religious Belief.—Mohammedanism is now the prevailing religion in Malaysia; it has nearly expelled Brahmanism and Buddhism from the islands. Christianity prevails only on the Philippines. The religion varies with the locality, and even where it preserves its original form it is mixed with Indian and Mohammedan elements. Originally the Malaysians believed in one god, who dwelt in the sun or heavens, and from

whom all other gods (generally personifications of the powers of nature), the universe, and mankind have proceeded; sacrifice or direct worship was not offered him. Next to these gods, who were graded down to elf-like elementary spirits, were the guardian spirits (to which foreign names, *deva*, *djin*, etc., have been transferred), who were originally considered friendly, but later, because they prepared the soul for heavenly life by devouring it, were held to be hostile. These latter had Hermes-like figures, with gnashing teeth (*pl.* 27, *fig.* 24) or projecting tongue (*pl.* 22, *fig.* 22), and were placed by the wayside or on village boundaries. The Malaysians venerated and feared the spirits or souls of their ancestors, which were not assigned so much power as in Polynesia, although they were much feared.

Superstitions.—In the room of a dying person they hang up a piece of cloth or an artistically-decorated leaf (*pl.* 27, *fig.* 21), believing that the departing soul will leave the room on it; the cloth or leaf is then carefully destroyed, because divine beings can walk only on paths that they have already used, and so the room remains secure for the use of the people. From this it follows that the custom of the Polynesian *taboo* prevails in Malaysia, as, indeed, it does generally, together with a mass of other superstitions. The souls live in a shadowy Beyond, in which they receive reward or punishment. There were no priests, but many feasts were celebrated in honor of the *devas* and souls (*hantu*), often at night with dances, etc. (*pl.* 22, *fig.* 22). For these latter sacrifices were instituted only in individual cases. Human sacrifices were frequent at the graves of the nobles, on whose death a "head-hunting" was inaugurated in order to procure servants for them in the Hereafter.

Burial.—The corpses were disposed of in various ways. They were cremated, which probably was not everywhere due to Indian influence, and the ashes were preserved in vessels, or they were dried in smoke or left to decay on exposed frames and then burned or buried; in some places they were buried at once. Among the cultivated tribes people of rank were first exposed on a bed of state and then buried. Plate 26 (*fig.* 4) shows a bier from Celebes. The funeral festivities were very numerous. Diseases are attributed to the influence of evil spirits, and are cured by magicians, who are not without power, and by women; these persons have also some knowledge of medicine. It is clear that the Malays are capable of European civilization; but if European influence has often only injured them, it is due to the manner in which the Europeans first met them.

Language.—The Malayan languages are of different degrees of development, the Tagala being the most advanced. In the forms of speech they are nearer to the Polynesian than to the Melanesian, although in the roots they betray a relationship with the latter. The construction shows a rich application and formation of elements that are not yet distinct in the Polynesian. In customs, in physical structure, and in speech all these peoples belong to one great race. At first sight the Australian languages show no relationship to the Polynesian, Malaysian,

and Melanesian languages, but the grammatical structure reveals marked similarity.

It is difficult to determine the original home of this race, but it seems to have been in the neighborhood of Malacca and Sumatra. Thence the Polynesians may have first migrated; next, the Melanesians; later on, the Australians; while the Malays proper remained nearest their original home. Only at a time comparatively recent did the Malagassies migrate to their present location.



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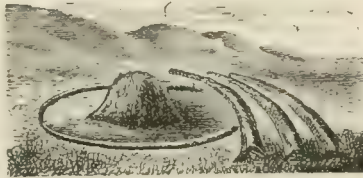
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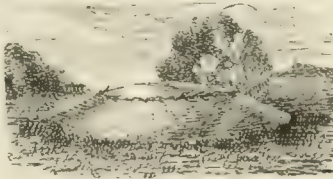
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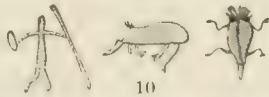
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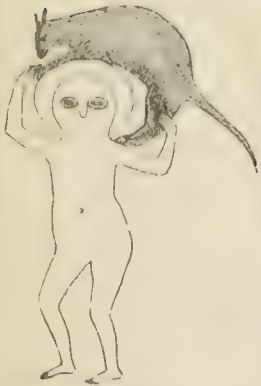
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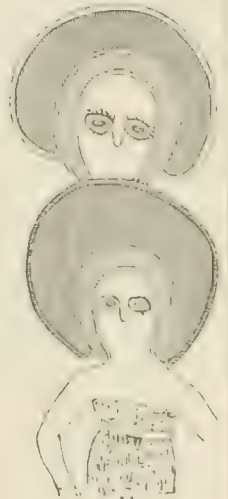
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AUSTRALIANS. — 1. Native of Port Lincoln. 2. Native of Queensland. 3. Woman from Queensland. 4. West Australian. 5-7. Australian graves. 8. East Australian chief and family. 9-11. Rock paintings from North-west Australia. 12. Kangaroo-dance of the South Australians.



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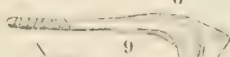
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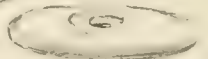
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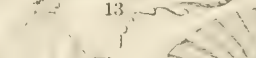
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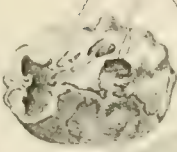
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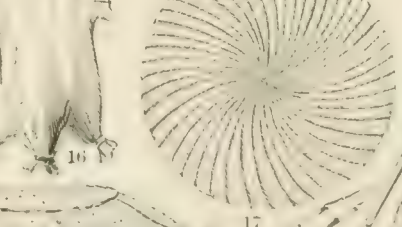
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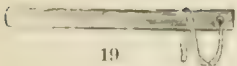


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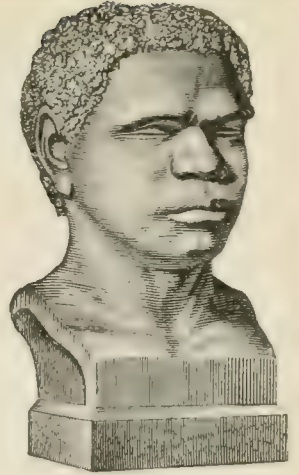
AUSTRALIANS.—1. South Australian man. 2. South Australian woman. 3. Stone-axe, from South Australia. 4. North Australian village. 5. Spear, and 6. Hurling stick. 7. Spear points. 8. *a*. Wooden battle knife; *b*. Boomerang. 9. Axe. 10. Wooden shield (side view). 11. Distaff, with threads spun from hair. 12. Decoration of kangaroo teeth, worn at the festival of puberty. 13. Instrument for making noise, used against evil spirits, from East Australia. 14. Stone mortar. 15. Drinking vessel, made of a human skull. 16. Water bag, made of opossum skin. 17. Mat for carrying an infant. 18. Club. 19. Instrument for making noise, used against evil spirits, from South Australia. 20. Basket made of woven nets. 21. Spear point. 22. Basket carried on the backs of the women.



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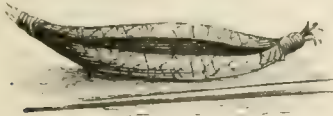
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TASMANIANS.—1-4. Natives of Tasmania (men). 5. Tasmanian woman and child. 6. Tasmanian woman. 7. Boat; 8. Paintings; 9. Graves, from Tasmania. 10. Tannese (Tanna Island). 11. Inhabitant of Mare Island (Loyalty Island).



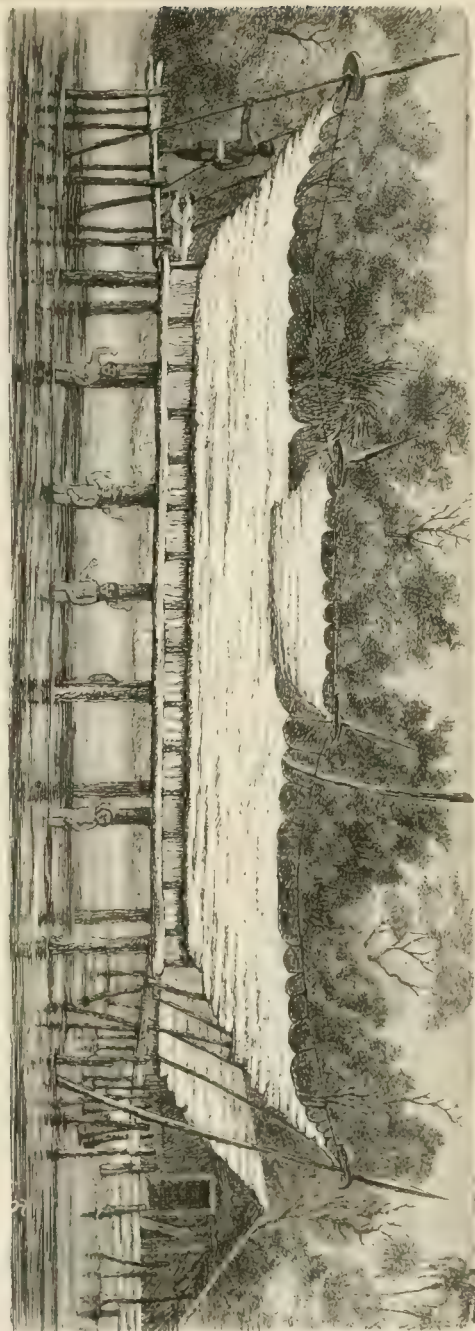
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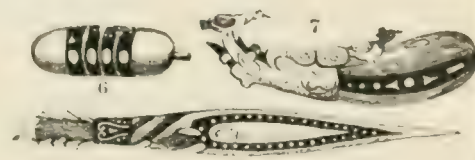
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MELANESIANS. 1, 2. Native of Redscat Bay (New Guinea). 3. Natives of Humboldt Bay (New Guinea). 4. Temple at Dorei (New Guinea). 5. Temple of a village on Humboldt Bay. 6. Calabash; 7. Carved ship ornament; 8. Arrow point—all from Humboldt Bay.



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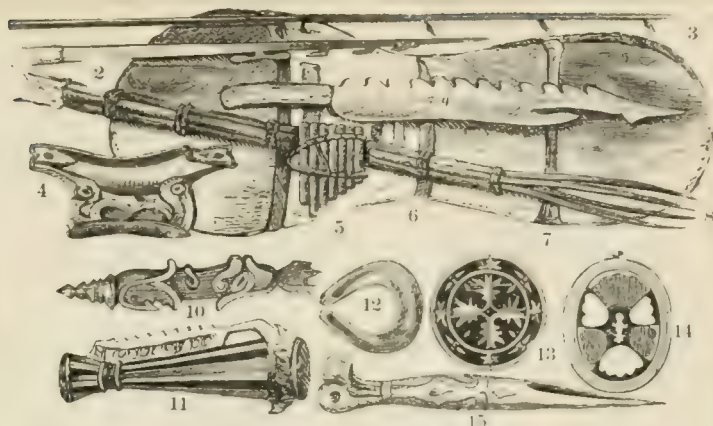


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MELANESIANS.—1. Village on Humboldt Bay, in New Guinea. 2. Village on the south western coast of New Guinea. 3. Native of Dorei (New Guinea), in festive attire. 4. Village on the Utanata River, in New Guinea.



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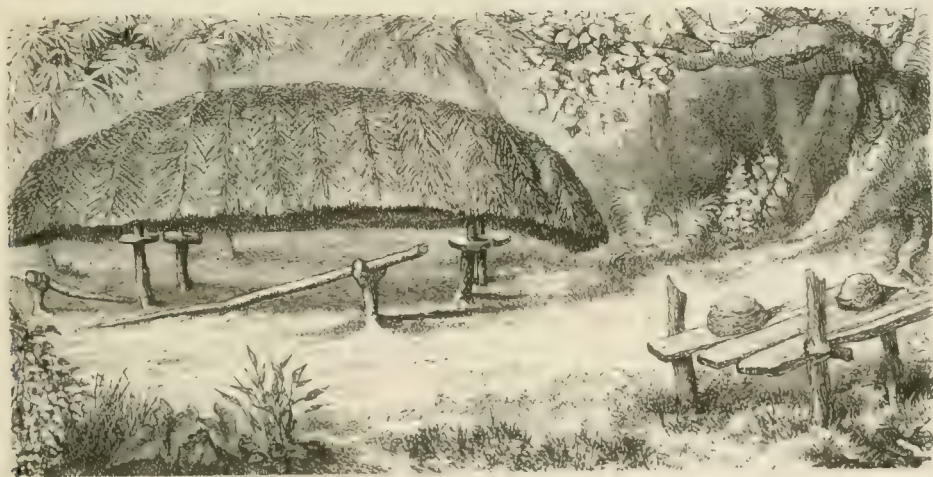
MELANESIANS.—1. Native of Humboldt Bay (New Guinea). 2. Spear, from Redstart Bay (New Guinea). 3. Spear, from the Kingsmill Islands. 4. Head-rest; 5. Pan's flute; 6, 7. Shields; 8. Spear for fishing—all from New Guinea. 9. Spear, from Malanta (Solomon Islands). 10. Dagger-handle; 11. Drum; 12. Ear-ring; 13, 14. Shields—all from Dorei (New Guinea). 15. Dagger made from human bones, from Humboldt Bay. 16. Comb, from Dorei. 17. Bow, from the south-western coast (New Guinea). 18. Bow, from Dorei. 19. Loin-cloth (south-western coast). 20, 24. Domestic idols of Dorei. 21. Loin-cloth, from south-western coast of Humboldt Bay. 22. Flute; 23. Head-rest, from Humboldt Bay. 25. Inhabitant of New Caledonia. 26. House; 27. Section of same, in New Caledonia.



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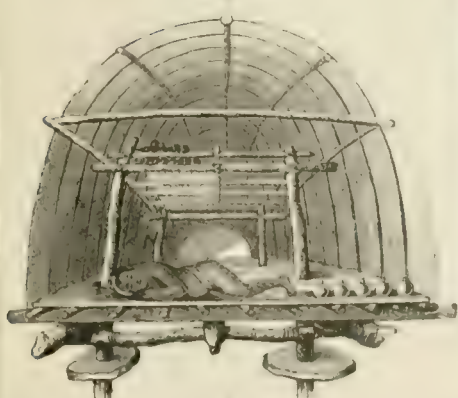
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MELANESIANS. —1. Boat of New Caledonia; 2, 5. Boats of the Admiralty Islands; 3. Boat of Malakuta (Solomon Islands); 4. Boat of Vankoro (Pitt's Island). 6. Hut and altar; 7. Section of the hut, from the Louisiade Archipelago. 8. Bracelet of human bones. 9. Group of the various islanders.



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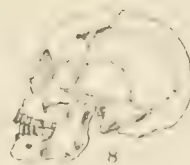
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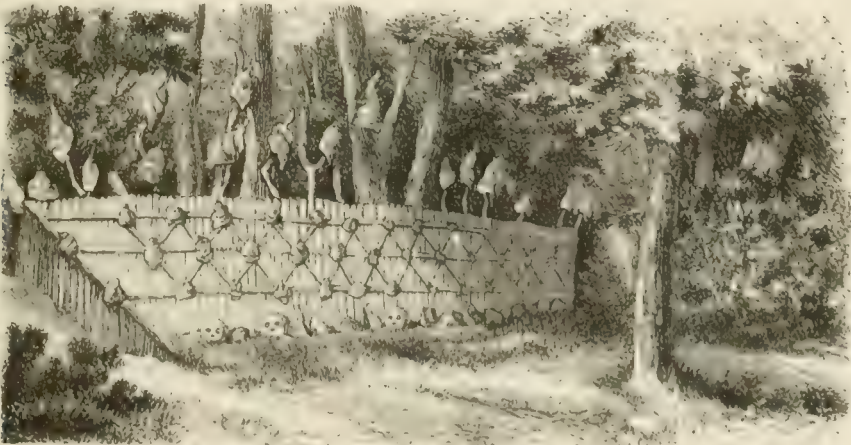
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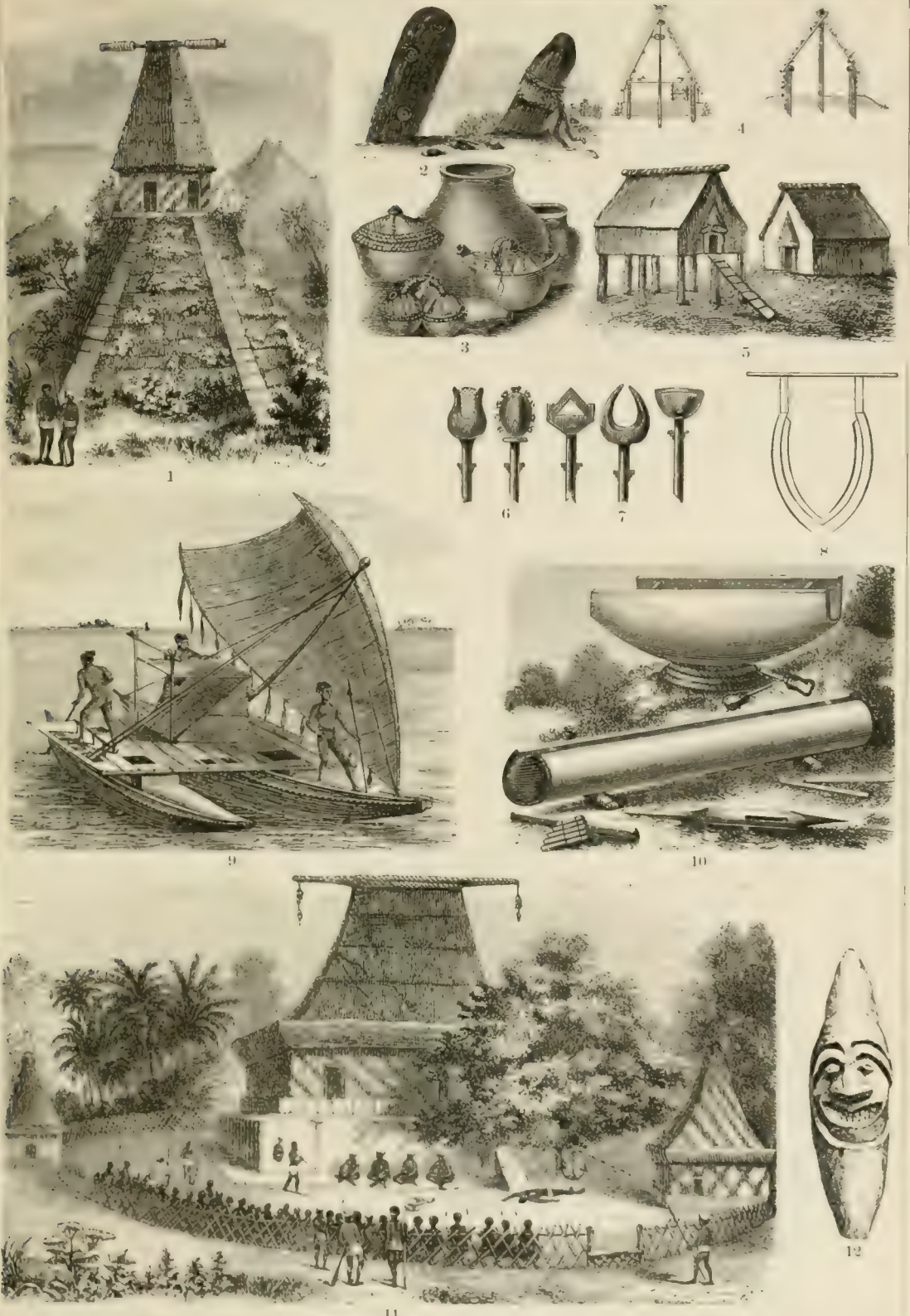


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MELANESIANS.—1, 4. Aitakis (New Guinea). 2, 3. Skulls, artificially misshapen, of Samar (Philippine Islands). 5. Inhabitant of the Admiralty Islands. 6, 7. Negritos, from North Luzon. 8, 9. Negrito skulls, of North west Luzon. 10. Place for skulls, on an island of Torres Strait.



MELANESIANS.—1, 2. Chiefs in full dress, from the Feejee Islands. 3. Manner of painting the faces by the Feejeeans. 4. Thakombau, king of the Feejee Islands. 5, 7. Fishhooks; 6. Cap, of the Cannibals. 8, 9. Combs, from New Caledonia. 10. Spear; 11. Basket, from the Admiralty Islands. 12. Necklace, from the Louisiade Archipelago. 13, 15. Utensils of the Cannibals. 14. Hatchet, from New Caledonia. 16. Sacred drinking-vessels; 18. Spears; 19, 20. Arrangements of the hair; 21. Belt for the women; 22, 23. Fans; 24. Cannibal forks; 25. "Taboo" mark, all of the Feejee Islands.



MELANESIANS. 1. Temple; 2. Sacred stones; 3. Pots; 4. Sections of sleeping houses; 5. Elevation of sleeping houses; 6. Mastheads; 7. Tops of pillars which support the ridge of the roof, from the Feejee Islands. 8. Section of a skiff; 9. Ship; 10. Musical instruments, of the Feejeans. 11. Temple square; feast of human sacrifice. 12. Idol from the Feejee Islands.



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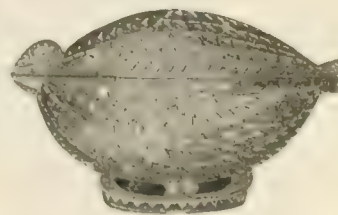


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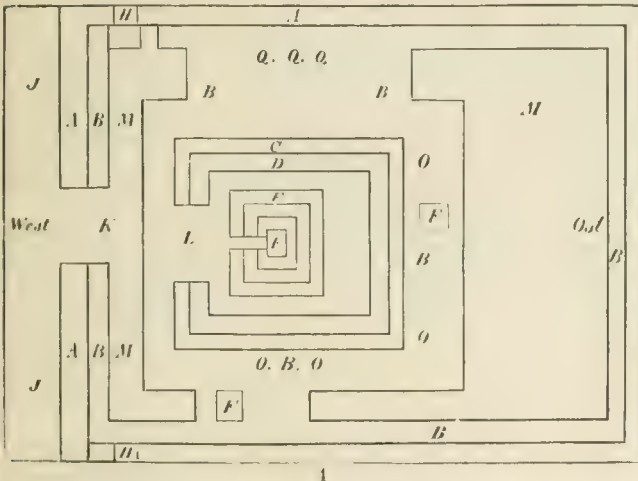
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POLYNESIANS. 1. Women of Ualan (Caroline Islands). 2. Boat, from Lukunor (Caroline Islands). 3. Dwelling house on Ualan. 4. House of assembly on Lukunor. 5. Native of Ponapi (Caroline Islands). 6. Sword; 7. Comb; 8. Vessel, from Pelew (Caroline Islands).



POLYNESIANS.—1. Boat, from Kadack; 2. Coral island and lagoon; 3. Boat, from Lamatan (Caroline Islands); 4. Plan of ruins on Ponapi (Caroline Islands); 5. Abathulle, chief of the Pelew Islands (Caroline Group); 6. Place of public assembly at Pelew.



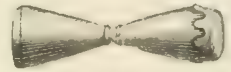
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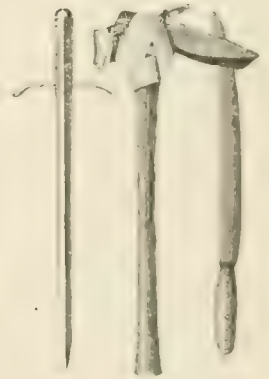
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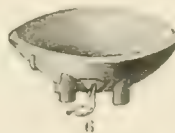
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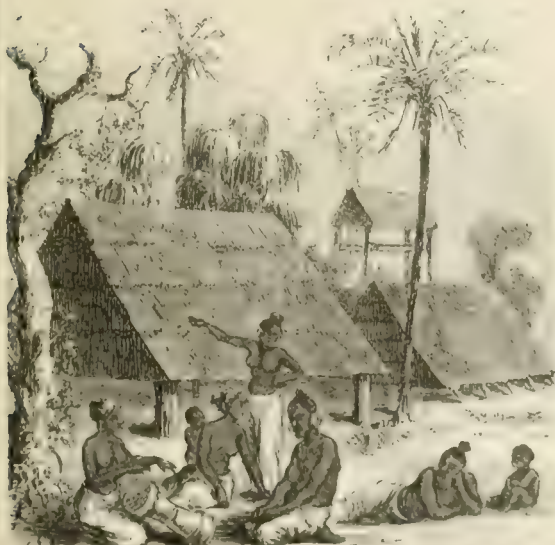


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POLYNESIANS.—1, 2. Ruins on Timan and Rota (Marina Islands). 3. Ranki, chief of the Rakack Islands. 4. Drum, from Rakack. 5. View of an island of the Rakack chain. 6. Cava bowl; 7-9. Weapons; 10. Needle; 11. Cloth hammer—all from the Tonga Islands. 12. Chief of the Tonga Islands.



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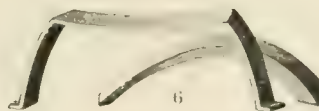
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POLYNESIANS.—1. Nocturnal dance at Tonga (Tonga Islands). 2. Tonganese club. 3. Tonganese costume. 4. Wreath, "soul of the god." 5. Female idol, from Tonga. 6. Head rests. 7. Small skiff. 8. Pendant table, with a hook below, from Tonga. 9. Idol, from Raratonga (Cook Islands). 10. Placed bag, from Tonga. 11. Tonganese ship.



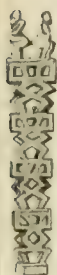
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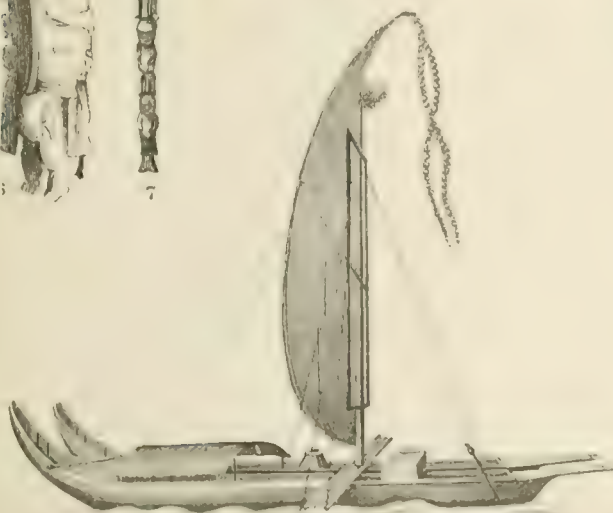
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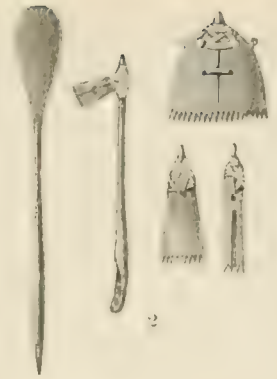


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POLYNESIANS.—1. Tahitian of rank. 2. Woman and child of Tahiti. 3. Tahitian flute player. 4, 5, 6, 7. Idols of Tahiti. 8. Tahitians. 9. Female dancer of Tahiti. 10. Ship of Tahiti. 11. Pomare II. (Otu), king of Tahiti.



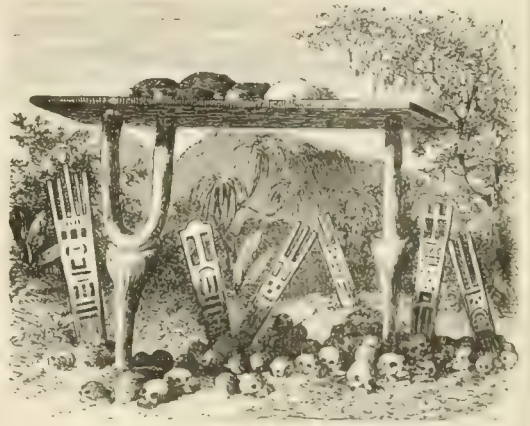
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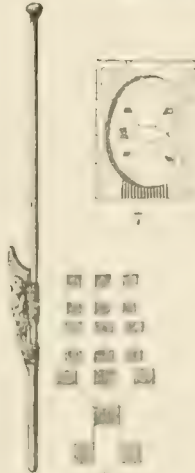
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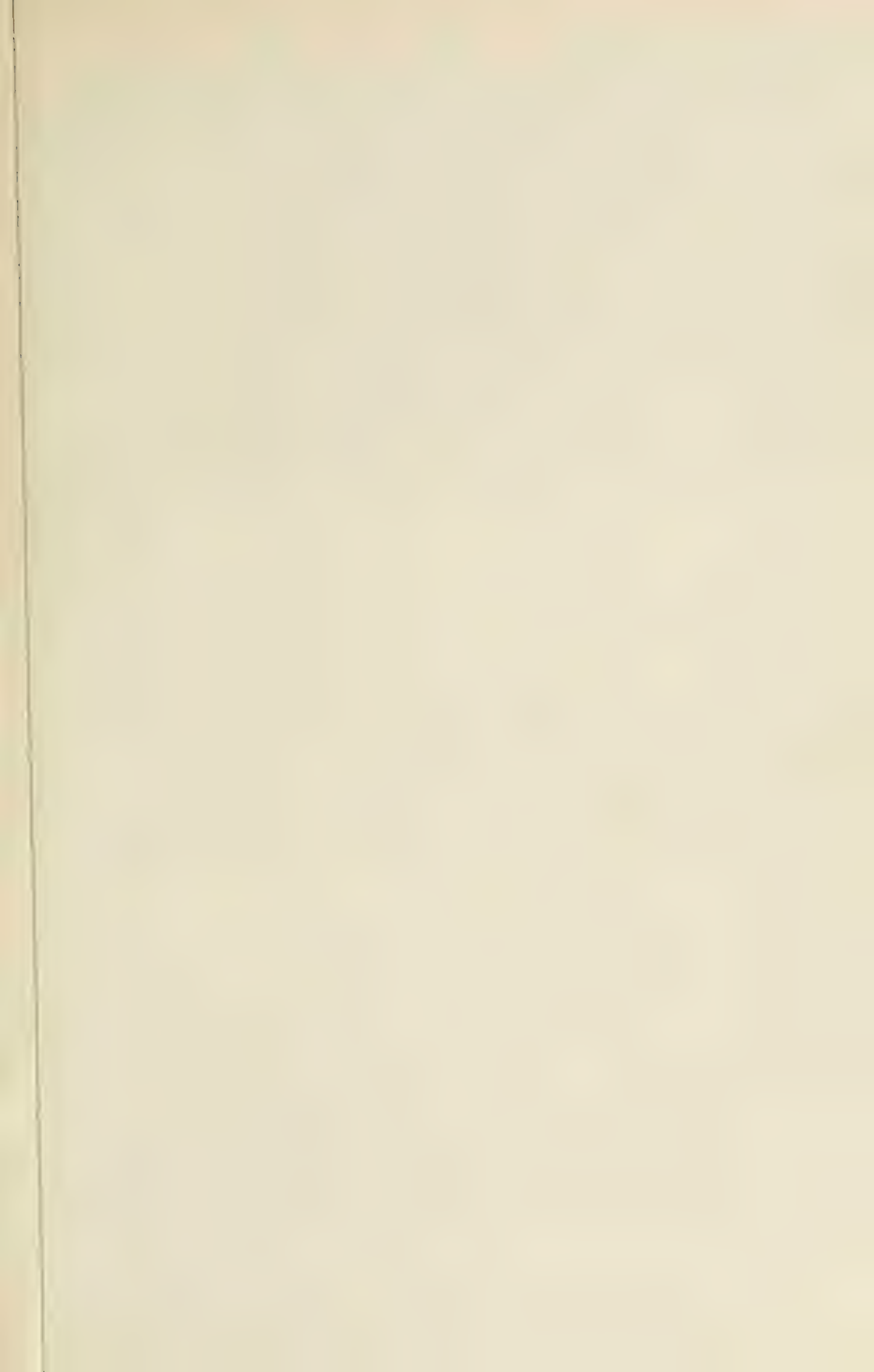
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POLYNESIANS. 1. Temple place, Tahiti. 2. Implements for tattooing. 3. Heva (priest of the Heva). 4. Burial place of Tahiti. 5. Skiff from Niue. 6. Inhabitant of Nukahiva. 7, 8. Tattoo marks. 9. Stilt, of Nukahiva. 10. Kamehameha, king of the Sandwich Islands.





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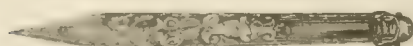
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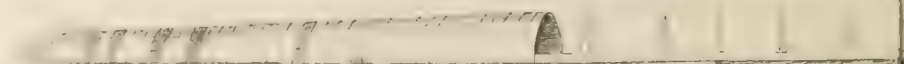
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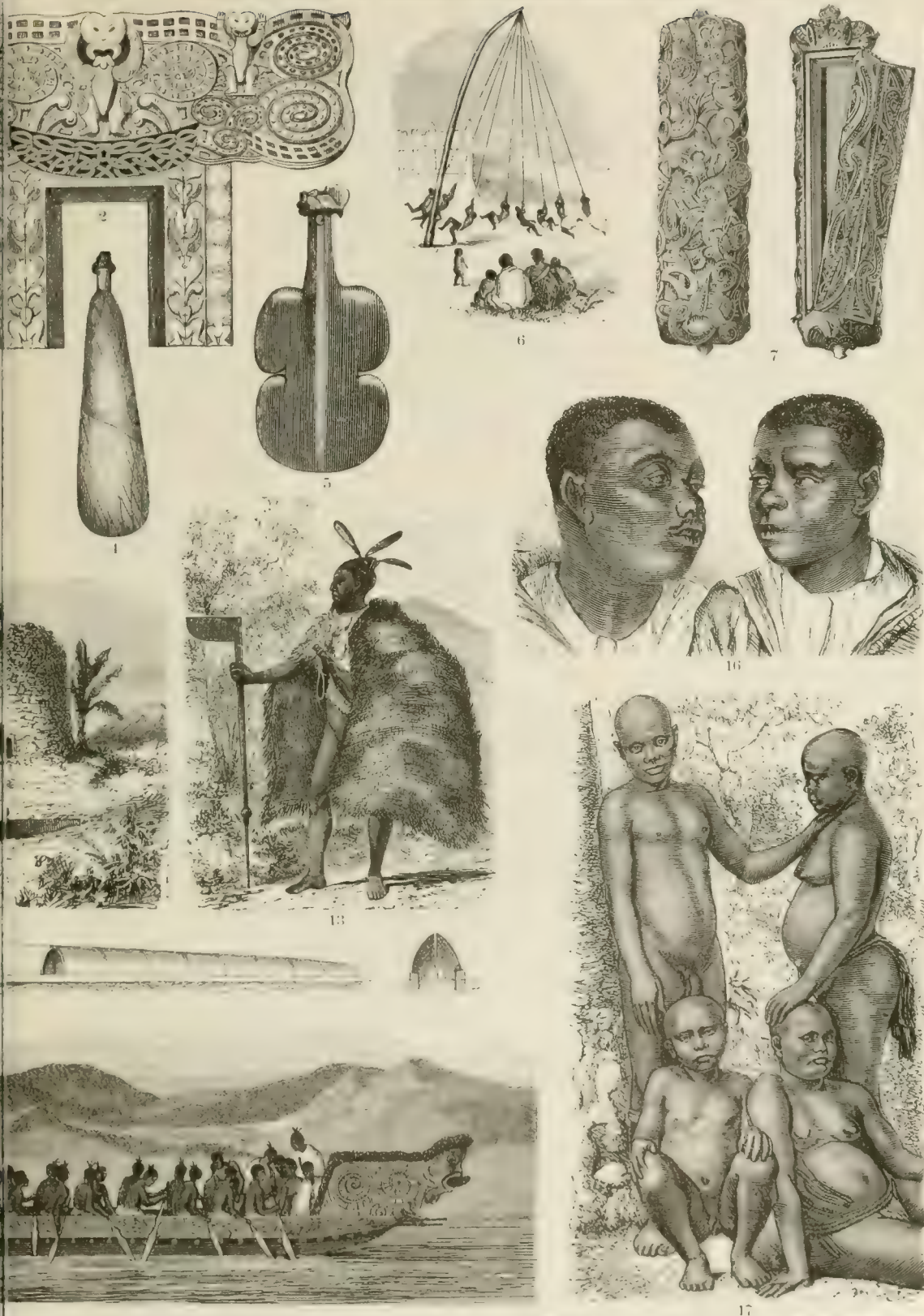


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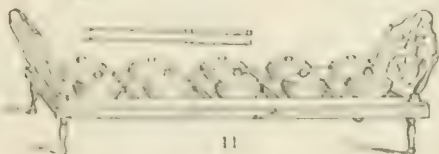
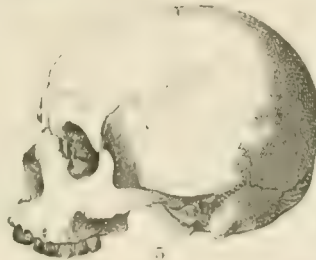


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1. Temple place (marae) of Kanehama, on Hawaii. 2. Carved door; 3, 5. Ceremonial dagger; 4. Ceremonial dagger; 6. Ceremonial dagger; 7. Ceremonial dagger; 8. Ceremonial dagger; 9. Stone statue; 10. Stone statue; 11. Stone house, with subterranean chamber, on Easter Island; 12. Stone house, with subterranean chamber, on Easter Island; 13. Stone house, with subterranean chamber, on Easter Island; 14. Stone house, with subterranean chamber, on Easter Island; 15. Minicopies, inhabitants of the Andaman Islands.



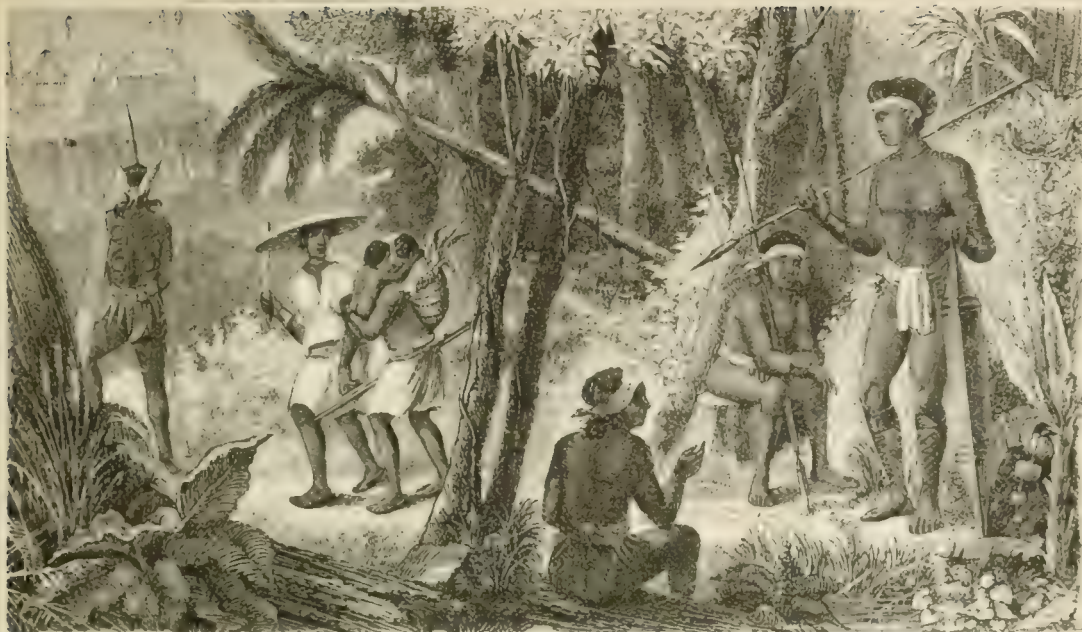
8; 6. Swing; 7. Carved box—all of the Maori. 8. Head of a Kanaka (Hawaiian). 9. Grave monument; 10. Ornamented land. 13. Maori chief. 14. Hut (310 feet long) on Easter Island, with cross section view on the right. 15. War ship of the



MALAY-INDIANS. 1. Scout of the district Ambong (Java). 2. Javanese bridal couple. 3. Javanese woman and child. 4. Javanese of rank. 5. Skull of a Javanese. 6. Children from the interior of Java. 7. Woman from Java tying her husband's kerchief. 8. Javanese in war attire. 9, 10. Javanese chieftains. 11. Musical instrument (Gamelan Sambilan). 12. Javanese in court attire.



MALAYSIANS.—1. Main temple in Suku (Java). 2, 5. Instruments for the preparation of dress-stuffs. 3. Plough. 4. Buffalo yoke. 6. Social wood comb of the women. 7. Cocoa spoon, all from Java. 8, 10. War-caps of the Dyaks. 9. Linen bag of Timor. 11. Cocoa comb of the men; 12. Masks. 13. Toy doll. 14. Stone head, from Java. 15, 16. Inhabitants of Amarasie, Timor. 17. Herald of Amarasie. 18. Madurese. 19. Comb of buffalo horn. 20. Houses of Timor. 21. Ngalyus (Southern Borneo). 22. Dance of the Ot Danan (Borneo).



MALAYSIANS. 1. Dyaks. 2. Common people. 3. A goldman, from Bantam (see p. 100). 4. Tatup (vessel for ornament) of the Dyaks. 5. Selan of the Dyaks. 6. Dyak village.



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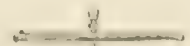
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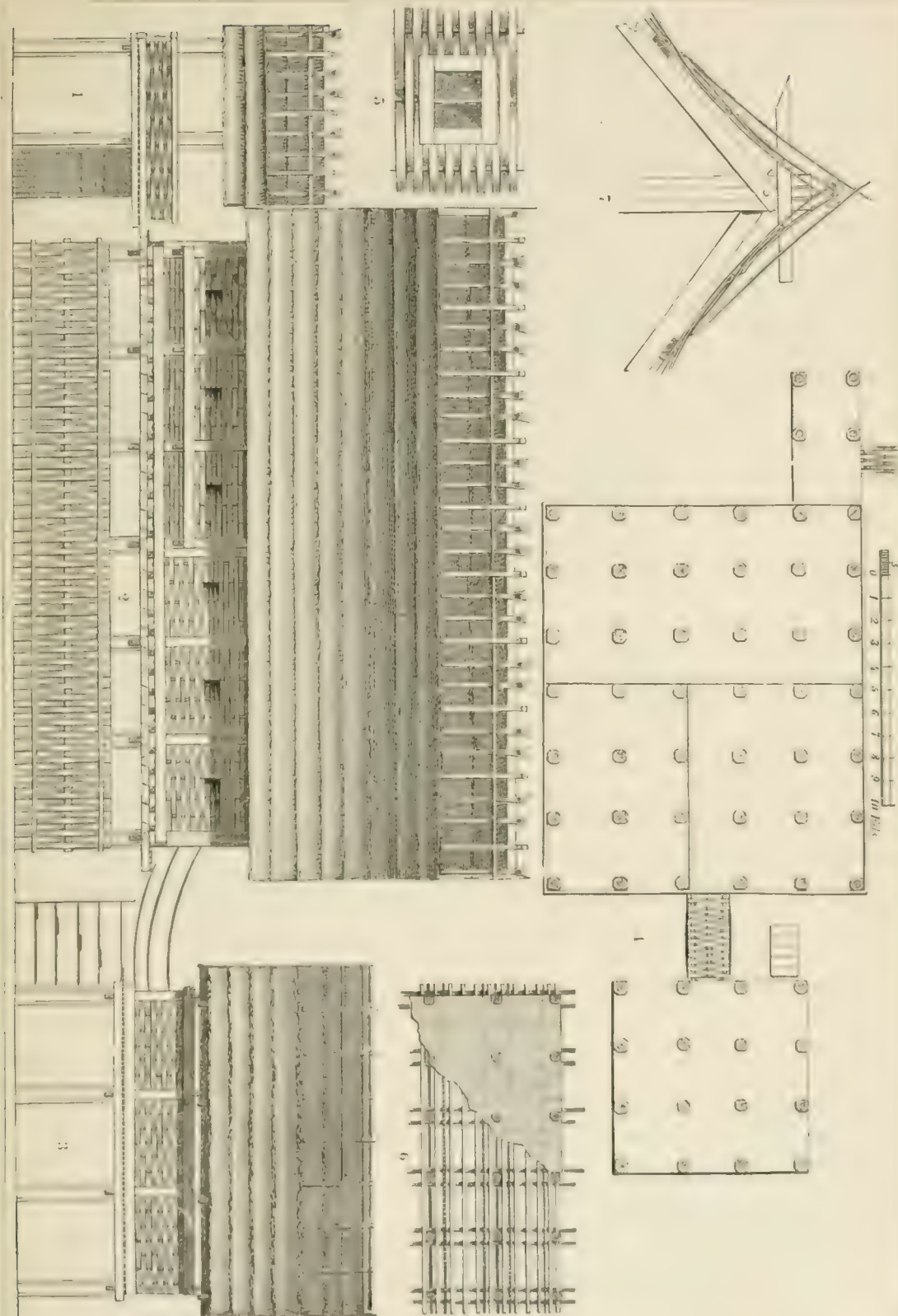


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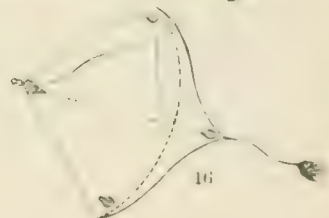
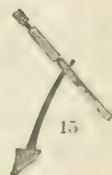
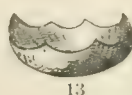
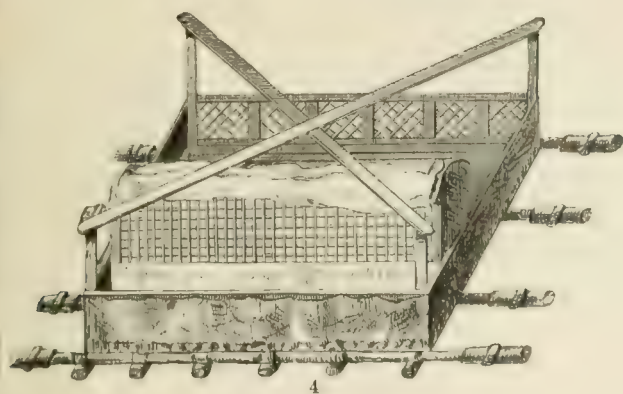


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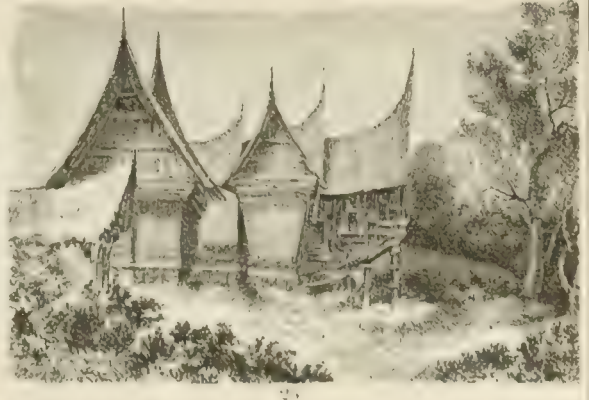
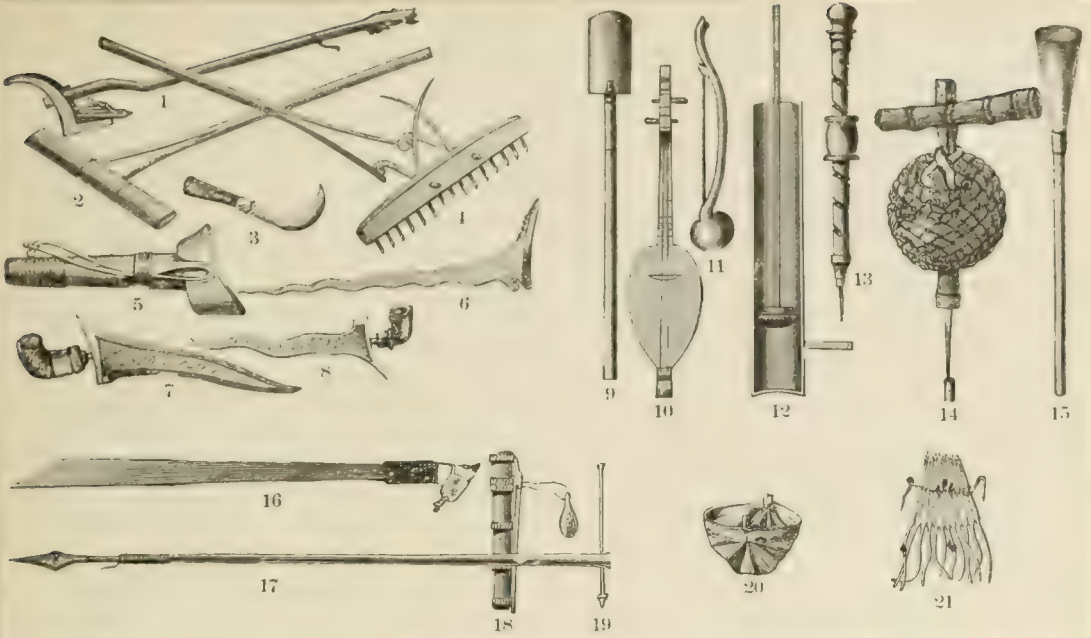
MALAYAN. — 1. House of the Malay. 2. Portrait of a Malay. 3. Interior of a Malay house. 4. Washing of clothes. 5. Sago cake. 6. Bamboo for making water. 7. Sago club of Ceram. 8. Bamboo box napkin case. 9. Cakupan, of Celebes. 10. Mason's Poles.



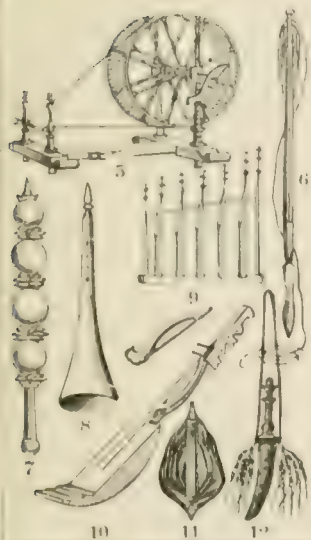
MALAYSIANS. - 1. Vestibule; 2. Dwelling house; 3. Slave house, of a noble Macassar. 4. Plan of the house
5. Windows of its front, 6. Floor; 7. Supports of the roof.



MALAYSIANS. —1. A Tagalese (Philippine Islands); 2. Altire from the interior of the Celebes; 3. Altire in war attire. 4. Bier of the Macassars. 5, 6. Spoons; 7. Funnel; 8-10. Earthen vessels; 11, 12. Iron vessels, of the Celebes. 13. Vessel made of some kind of fruit. 14. Copper basin in which the noble Macassars wash their hands at the table. 15. Instrument for twisting ropes. 16. Paper kite. 17. Ship for passengers and freight (Celebes). 18. Bamboo bridge and Malayan church.



MALAYSIANS.—1. Plough; 2. Roller; 3. Knife; 4. Harrow; 5-8. Daggers (kris); 9. Shovel; 10. Violin; 11. Violin bow; 12. Bellows, of the Macassars. 13. Gimlet from the Celebes. 14. Gun barrel borer of Lombok. 15. Fruit cup for fine fruits. 16. Knife for the capture of the heads of the enemy. 17. Blow pipe; 18. Quiver; 19. Poisoned bolt, of Celebes. 20. Bucket (palm leaf) from Rotte. 21. Piece of a leaf hung under the roof of a deceased person. Rotte. 22. Scout of Solor. 23. Market at Dobbo (Aru Islands). 24. Batta village (Sumatra). 25. Farmyard of a chieftain of Sumatra.



MALAYSIANS. 1, 2, Inhabitants of Kottie. 3, Street in Tamatave (Madagascar). 4, Hova women (Madagascar). 5, Spinning wheel; 6, Bandang; 7, Gula; 8, 10, Musical instruments, of Java. 11, Musical instrument of Kottie. 12, Powder horn made of a crocodile's tooth (Fimor). 13, Hovas (Madagascar). 14, Female slaves carrying water, of Tamatave (Madagascar).

II. THE AMERICANS.

THE aboriginal inhabitants of America constitute a *single* great race, in which are to be included the extreme northern peoples of the continent, the Eskimos and their relations the Kodyaks, Malainiutes, Aleutians, and also the Namollos, who have passed over into Asia. Some scientists class into one division with these peoples the North Asiatic tribes, the Kamchatkans, Yukagirs, Koryaks (Tchuktchis), etc., and this division is called the Arctic or Hyperborean, or the Behring people.

The Eskimos form a connecting-link between the Americans and the Asiatics. In many respects they are similar to the latter in physical structure and manner of living, but their language is entirely American in its structure, and their habits are more like those of the Americans than those of the Asiatics. In Western America especially their character and physical appearance pass gradually and without precise boundaries into the class of distinctly American peoples, and, in spite of some resemblance to the Asiatics, they are even physically distinct from them.

Both of these latter statements are confirmed by our illustrations. Compare, first, the Eskimos (*pl.* 29, *figs.* 1, 3, 4, 7) with the Kolushes (*pl.* 31, *figs.* 5, 11, 15), also the Aleutians (*pl.* 30, *fig.* 14) with the Californians (*pl.* 40, *figs.* 1, 3); then compare all these northern tribes with the South Americans (as in *pl.* 44, *figs.* 1, 2, 3, 9, 10, 11; *pl.* 45, *fig.* 8; *pl.* 46, *figs.* 1, 2, 3; *pl.* 47, *figs.* 1, 2, 3, 6; *pl.* 48, *figs.* 1, 2, 3, 4, 9; *pl.* 49, *fig.* 4; *pl.* 50, *fig.* 2; *pl.* 51, *fig.* 4), and great similarity will be found amongst them. But on comparing them with the northern Asiatics (*pl.* 75, *fig.* 5; *pl.* 78, *fig.* 5; *pl.* 79, *figs.* 1, 4, 5) it will be admitted that the latter are very much alike among themselves, but may easily be distinguished from the Americans. The Tchuktchi (on *pl.* 75, *fig.* 5) is a sedentary Koryak, but not a Namollo, though the Namollos are also called Tchuktchis; consequently, he belongs to the Asiatic tribe, and not to the American. Although a definite judgment regarding these peoples is not yet possible, we feel compelled, on account of the reasons above mentioned, to class the Eskimos and their related tribes among the aboriginal Americans.

Classification and Location.—The aboriginal Americans, therefore, include the following peoples (see *Map*):

1. The *Eskimos*, as above stated;
2. The *Kolushes* (Tlinkits), on the western coast, from near Mount St. Elias to south of Vancouver Island;
3. The *tribes of Oregon*, around the Columbia River;
4. The *Kenais* (Tinné) and the *Athabascas*, from the Kwichpak to Hudson Bay and the Mississippi, to whom, among others, belong the

Inkalits, the Tanana Indians (Middle Yukons), the Chippewyans, and, scattered southward, the Apaches and Navajos;

5. The *Algonkins*, from the Saskatchewan to Labrador and Nova Scotia on the north, and to the Ohio and, east of the Alleghanies, to the Savannah River on the south, including the Crees, Chippeways, Lenape, Blackfeet, etc.;

6. The *Iroquois* (including the Hurons, Susquehannocks, Tuscaroras, etc.) on the St. Lawrence and upper Ohio, and southward to Virginia;

7. The *Dakotas* or Sioux, on the Missouri and the Mississippi down to the Arkansas, to whom belong the Assiniboin, Minitarees, Mandans, and many others of the best-known tribes;

8. The *Pawnees*, on the Platte and Kansas rivers;

9. The *South-eastern tribes*, Cherokees, Choctaws, Muskokees, Seminoles, etc., on the lower Mississippi and thence to the ocean and in Florida;

10. The *Mexican peoples*, among whom may be included the Sonora tribes and the Pueblo Indians of New Mexico, the Californians, the Shoshones or Utes, the Comanches and Yumas of the lower Colorado, the Pimos, the Moquis, Mojaves, and others;

11. The *Central American tribes*, from the Isthmus of Tehuantepec to that of Panama, embracing the Zapotecs, the Mayas in Yucatan, the Quichés, Cakchiquels and Xincas of Guatemala, the Mangues, Chapanees, Guaymis, etc.;

12. The *Chibchas* or Muyscas, in the United States of Colombia.

13. The *Caribs* and their neighbors, the Goajiros, Arawacks, Warraus, Macusis, Paravilhanos, Wapisianos, and others, principally in Guiana and Venezuela;

14. The *Tupi tribes*, in Brazil, consisting of the Tecunas, Miranhas, Juris, Mundrucus, Muras, Mauhes, Botocudos, Puris, Cambocos, Patachos, Coroados, Guaranis, Guarajos, Omaguas, and others;

15. The *Pampas Indians* (Guaycurus, Tobas, Mbayas, Abipones, Puelches, Tehuelches, Fuegians, and Araucanians);

16. The *Quichuas* (Peru); and

17. Eastward from the Quichuas the *peoples of Bolivia* (Chiquitos, Moxos, Antisans) and of North-eastern Peru (Panos, Maxurunas).

Of these races, 2 and 3, 4 to 9, and 10 to 12, respectively, belong more closely together.

Since we maintain the unity of these various peoples, we may be asked, Where was the original home of the Americans? Thirty years ago the supposition was that the Americans, strictly separated from all other peoples by both manners and language, had originated by natural development in America itself. To-day no one believes that. But whence they did come has not been determined. It is generally supposed that they migrated from the north, coming from Asia across Behring Strait; but this appears contradicted by the fact that peoples who become accustomed, as the northern Asiatics had, to a northern climate do not

move southward again. Besides, the natural conditions of northern countries prevent such increase of population as would render emigration necessary. And further, the history of the cultivation of Indian corn seems to lead to the conclusion that the people who used it had spread from the south northward. We therefore feel justified in concluding that the Americans migrated from China or Japan across the Pacific Ocean at a very early period—during the latest diluvial formation. It is not necessary to suppose that the migratory movements were intentional; they were no doubt produced by causes such as are yet occasionally seen. Sometimes the ocean-currents were the cause, but more frequently the western winds, which are very strong in winter and blow across the entire width of the Pacific Ocean. Examples are not rare of the endurance of barbarous people and of their ability to sustain life on the ocean for long periods, while, on the other hand, there are instances of comparatively short passages across that immense body of water.

If, then, the original settlers of America were driven by the winds across the ocean from Asia, they most probably landed on the northern coast of South America, because the winds generally blow from the north-west. That the population of the continent spread from that centre is shown by its equal distribution, which diminishes toward the extreme north and south, by the distribution of the maize, and by the development in civilization of the tribes of Central America and North-western South America. If they came from Asia, it is probable that they separated from the ancestors of the great Mongolian family, which would account for their Mongolian resemblance. This resemblance will, however, on examination prove to be neither so great nor so universal as is generally thought. But can we suppose that the whole aboriginal people of America descended from one or a few drifting canoes of people? The supposition is extravagant. Whole hordes must have separated from the original centre of the race in those early times, just as large bodies migrated in later times. That only a few should emigrate is not to be thought of for those times. As they migrated in communities, so in communities they entrusted themselves to the sea, confirmatory examples of which are furnished by the settlement of Japan, the Malaysian Islands, Australia, and Polynesia. While many hordes perhaps perished, one may have reached America and gradually spread. Many thousands of years afterward the Namollos, an Asiatic tribe of the Eskimos, migrated back from the extreme north into Asia, taking advantage of the summer currents of Behring Strait, which flow westward; and thus we find that small tribe with American language and customs wedged in between peoples of Asiatic origin. However, all these questions are shrouded in uncertainties which will probably never be cleared away.

Our opinion of the unity of all these peoples is based, first, on the language of the Americans, then on their physical condition, and finally on their entire manner of living.

Language.—Philologically, the Americans from the region of the

Eskimos down to Cape Horn are a unit. This unity is not manifest in the similarity of the words, but in the structure of the languages, and the latter is a sufficient proof of the relationship of the peoples. This construction is very singular. The verb either places the object between the person and the root—for instance, in Mexican *ni-naca-qua*, "I eat meat," *ni* is *I*, which pronominal form occurs only before the verb; *naca-tl* is "meat," and *qua* is "to eat"—or it at least inserts an objective pronoun and repeats the subject: *ni-c-qua* in *naca-tl*, "I eat it" (*c, ka*, "it"), the meat. In this latter manner most of the American languages proceed. This process is called *polysynthetic*, or, according to Humboldt, *incorporative*.

A language so constructed has in reality no sentences; it runs them into long words in which the single words are often much abbreviated. For example, in Cherokee they say *nad-hol-i-nin*, "Bring us the skiff," from *naten*, "bring," *amoxol*, "skiff," *i* euphonic, and *nin*, "us" (Steinthal). Nouns, adjectives, and verbs are not sharply distinguished in the formation of the language. We make the distinction between subject and predicate the foundation of syntax, and therefore say (to retain the first example), "I" (subject) "eat" (what is said of the subject, description of the subject, and therefore agreeing with it in number and person) "meat" (object of the predicate, of little importance to the subject, as its action remains unchanged whether it eats bread or meat).

But the American says, *ni-naca-qua*, "I-meat-eating," and his material, sensual conception does not consider the condition or situation of the subject, and therefore he does not change the verb-root, but he puts in the foreground the relation of the subject to the present object, and cannot think of the verb without the subject itself or a pronominal representative of it. To him it is not, therefore, the principal thing, as it is with us, that I am in a condition to eat, but that I have meat and am eating it. So Humboldt and Steinthal are correct in saying that the American languages make the object or verb the central point of a sentence, yet do not consider the verb as a word denoting action, but on the contrary contract it into a sort of adjective, saying, in place of "I eat," "I eating"—that is, "I the eating one." All the American languages show a similar structure, more or less pronounced—most fully the Mexican; while the Eskimo and its related idioms rarely insert the object itself, but very regularly the demonstrative pronoun, into the verb. The language of the Yukagirs, Kamchatkans, etc. is of entirely different construction.

Physical Description: The Skull.—It is impossible to represent a typical American skull; for although a rather long or medium form predominates among the Kolushes and peoples of Oregon, as well as among the Indians from the Yukon to Florida and among the peoples of Mexico, Guiana, Brazil, and Peru (*pl.* 45, *figs.* 2, 3, 4; *pl.* 53, *fig.* 13), still some tribes of the above-mentioned peoples show variation and others great differences. The Patagonians are distinguished by very broad skulls, while the Eskimos have narrow and high and the Aleutians lower skulls;

in consequence of this the face becomes broader and the head assumes a pyramidal shape (*pl. 2, fig. 8; pl. 29, fig. 3; pl. 30, fig. 14*), which we meet with, highly developed, among the Mexicans (*pl. 41, fig. 1; pl. 42, fig. 4*), but which is at the same time peculiar to the most ancient skulls of North American tombs. Almost everywhere an artificial shape was given to the skull by compressing it, especially in Peru, on the Columbia River (the Flatheads), in Mexico, among the Eskimos, etc.

Stature and Form.—Their stature is good on the average (*pl. 32, figs. 1, 3; pl. 33, figs. 1, 2, 5, 6; pl. 41, fig. 1; pl. 44, figs. 9, 10, 11; pl. 46, fig. 4; pl. 47, fig. 4; pl. 48, fig. 4*)—generally above the middle height, sometimes (Patagonians, Puelches) gigantic, up to 7 feet 6 inches, but, on the other hand, as among the Eskimos, the tribes of Tierra del Fuego, and some Brazilian peoples, hardly attaining 5 feet. In many places the women are especially small (*pl. 42, fig. 3; pl. 44, fig. 2; pl. 45, fig. 8*). Hands and feet are often remarkably small—as, for instance, with the Eskimos (*pl. 29, fig. 4*), in Mexico, Peru, Brazil—the legs curved a little to the outside, which makes their carriage awkward. As the latter peculiarity is found not only among the Eskimos (*pl. 29, fig. 5*), but also among the Kolushes and in Mexico, it probably is not caused by continual sitting in the skiffs. Undersized figures with broad shoulders and short necks are often found among the Mexicans and their relations (*pl. 42, figs. 6, 9*), in South America, and especially among the Patagonians (*pl. 49, fig. 1; pl. 50, fig. 2*); not seldom a disproportion is seen between the large rump and the too small limbs (*pl. 36, fig. 3; pl. 50, fig. 1*); while the Quichuas and Pampas Indians often have a head somewhat too large (*pl. 50, fig. 1; pl. 51, fig. 2*). The Eskimos, on the contrary, are short, but stout, fleshy, and fat (*pl. 29, figs. 4, 5, 7; pl. 30, fig. 14*); an extraordinarily high blood-temperature is said to have been observed in them.

Color.—The color of the skin is shaded from a whitish hue, through yellowish-brown and cinnamon color, to a blackish tint; real copper-red, except when artificially produced, occurs rarely. However, light and dark shades are found among the most closely related tribes; thus the Eskimos in Greenland are gray, while the Aleutians are of a dark-yellow brown. Redness of cheeks is often perceptible, and the skin is smoother, sometimes also softer, than that of Europeans, and altogether less hairy.

Hair.—Some tribes—the Eskimos, for instance (*pl. 29, figs. 1, 2, 4*)—have an abundance of hair in the beard; generally it is scant (*pl. 29, fig. 3; pl. 30, fig. 14*), and is then usually extracted with special instruments. The hair on the head is, on the contrary, very long and abundant, sometimes, even among the men, hanging as low as the belt (*pl. 31, fig. 12; pl. 33, fig. 1; pl. 44, fig. 6; pl. 46, figs. 2, 3; pl. 47, figs. 2, 3; pl. 49, fig. 1; pl. 51, fig. 4; comp. pl. 29, figs. 1, 3*). Generally, although not always, it is black, mostly straight and coarse, and only seldom shows indication of curl (*pl. 44, fig. 6; pl. 46, fig. 2; pl. 48, fig. 6; pl. 49, fig. 4; pl. 51, fig. 2*), still more rarely (upper Marañon or Amazon) of much curl.

It is worn differently, sometimes very long (North America), sometimes

cut about the back of the neck and the forehead (Aleutians, Californians, *pl.* 30, *fig.* 14; *pl.* 40, *fig.* 1), sometimes quite short, or shaved or burnt off except one long curl (scalplock; comp. *pl.* 29, *fig.* 3), or except a crown of hair on the top of the skull, as among the Botocudos (*pl.* 47, *fig.* 6; *pl.* 48, *figs.* 1-4), or in other shapes (*pl.* 44, *fig.* 7). Sometimes it is parted, braided (*pl.* 42, *fig.* 5; *pl.* 50, *fig.* 2, 9; *pl.* 51, *fig.* 4), or is left in disorder.

Features.—Still less can a general type of features be set up, which is quite natural, considering the vast extent of the continent. The Eskimos do not differ more in features from the Algonkins than these do from the Botocudos, Californians, or Tupis. The forehead is often small and retreating (*pl.* 32, *figs.* 1, 3; *pl.* 33, *fig.* 1; *pl.* 35; *pl.* 36, *fig.* 3; *pl.* 40, *fig.* 3; *pl.* 42, *figs.* 3, 5, 6; *pl.* 44, *fig.* 7; *pl.* 46, *fig.* 3; *pl.* 47, *figs.* 1, 3, 5; *pl.* 48, *fig.* 2; *pl.* 49, *fig.* 1), which was considered beautiful by the Mexicans (*pl.* 42, *fig.* 4), but is often, as our plates show, of a different shape. We find the invariable dark eyes, sometimes sloping, among the western Eskimos (*pl.* 29, *fig.* 3; *pl.* 30, *fig.* 14), among the Inkalits (*pl.* 31, *fig.* 15), and the Kolushes; in Mexico (*pl.* 42, *fig.* 4), in Brazil (*pl.* 46, *fig.* 1; *pl.* 47, *fig.* 2; *pl.* 49, *fig.* 1), and in Patagonia; but in general they are perfectly horizontal. They are rarely large, and often have a drooping appearance, especially when the expression of the features is earnest or sad. The nose, always pressed in at the root (*pl.* 29, *fig.* 1; *pl.* 30, *fig.* 14; *pl.* 53, *fig.* 15), is frequently much curved and large (North Americans, *pl.* 31, *fig.* 12; *pl.* 32, *fig.* 1; *pl.* 33, *figs.* 1, 2, 5, 6; Mexicans, *pl.* 41, *fig.* 1; *pl.* 42, *figs.* 3, 4, 5; Brazilians, *pl.* 48, *fig.* 1; Guianese, *pl.* 44, *fig.* 5). It is the same, but also broad and fleshy, among the Peruvians (*pl.* 50, *fig.* 1; *pl.* 53, *figs.* 15, 18) and the inhabitants of the Pampas (*pl.* 51, *fig.* 2); frequently straight and broad, especially in the south and in California (*pl.* 40, *fig.* 1); and also small and short, as among the Aleutians (*pl.* 30, *fig.* 14), and, for instance, the Californians (*pl.* 40, *fig.* 1) and the Brazilians (*pl.* 48, *fig.* 6). The noses of the Kolushes (*pl.* 31, *fig.* 11), of the Botocudos (*pl.* 48, *fig.* 3), and others bear a close resemblance to the peculiar form of the Eskimo nose (*pl.* 29, *fig.* 1).

The mouth is found to be large almost everywhere, and the lips, especially the lower lip, thick; which form also is not infrequent among the Eskimos, while among the Mexicans the upper lip projects. The chin appears well formed everywhere; the oval shape of the face prevails in the north, among the Athabaskan peoples (*pl.* 31, *fig.* 12), and also in Mexico and Peru, but throughout the rest of South America and among the Eskimos the round shape predominates. Piercing the ear-lobes and the lower lip is practised, especially amongst the Botocudos, to a most exaggerated degree (*pl.* 48, *figs.* 1, 2, 3, 4); their ear- and lip-plugs (*botoques*) can be seen in natural size on Plate 47 (*figs.* 7, 8).

This custom also prevails among the Brazilian peoples, and their ornaments are often still more barbarous and grotesque (*pl.* 44, *fig.* 7; *pl.* 47, *fig.* 12); while those of the Eskimos (*pl.* 29, *figs.* 2, 3), Aleutians

(*pl.* 31, *fig.* 3), and Kolushes (*pl.* 31, *fig.* 5) are of a genuine American character. In the extreme north the nose is frequently pierced (*pl.* 31, *figs.* 11, 12); so, too, in Central America as well as in the south (*pl.* 44, *fig.* 7). Tattooing is almost universal, though each individual has but little of this ornamentation, which is mostly applied to the neck, mouth, and cheeks (*pl.* 40, *figs.* 1, 3; *pl.* 44, *figs.* 5, 7; *pl.* 46, *fig.* 3; *pl.* 47, *fig.* 3; *pl.* 48, *fig.* 6; *pl.* 49, *fig.* 5), and also to the forehead, nose (*pl.* 44, *figs.* 5, 9, 10), breast, and upper arm (*pl.* 33, *fig.* 5; *pl.* 47, *figs.* 3, 6; comp. *pl.* 49, *fig.* 5, the legs), but is rarely spread over the entire body (*pl.* 47, *fig.* 5).

Painting, mostly red, black, yellow, and white, is practised frequently; the Patagonians on Plate 50 (*fig.* 2), for instance, have their faces painted red, and the Californian on Plate 40 (*fig.* 7, to the right) has a Spanish uniform painted on himself as a decoration. The custom of painting for festive occasions (for instance, *pl.* 34) prevails from the Eskimos to Tierra del Fuego. Circumcision is practised by some Brazilian tribes, and was formerly customary in Central America.

Intermixtures.—The mixed breeds of the Americans with other races are numerous, vigorous, and fertile, which is also true of the mixed breeds of the Oceanic races. In America there are entire tribes and populations which are mixed. In Peru mixtures of Caucasians and Indians are called *Mestizos*, *Cholos* in Chili, *Mamaluco*s in Brazil; those of Negroes and Indians are called *Zambos*, and to them the Brazilian *Cafusos* (*pl.* 48, *fig.* 10), with their immense wigs, belong. The peculiarities of both parent races can easily be distinguished in the offspring; thus, the *Cholo* (*pl.* 53, *fig.* 18) exhibits the melancholy expression, the broad wide-open nostrils, the disproportion between rump and limbs, the bristly hair of the American combined with the high, slender stature and lighter color of the European.

Civilization.—A marked contrast is apparent in an historical survey of the civilization of the American peoples. We find among them highly-civilized peoples by the side of perfectly barbarous ones; and as the latter differ among themselves in manner of living according to their environment and climate, so we find among the former two entirely distinct developments of civilization, and from them down to the barbarians various intermediate steps. Even one and the same tribe sometimes shows different stages of development, which, considering the antiquity of the American peoples, is natural.

Mounds.—We have first to speak of the peculiar earthworks which are found generally in the river-valleys south of the Great Lakes from the Alleghany Mountains to Texas. They are long tumuli, more rarely excavations, in the shape of animals, representing snakes, birds (*pl.* 39, *fig.* 10; perhaps, also, *fig.* 8), lizards, bears, adders, or men (perhaps *fig.* 8); often the shapes are not distinct (*pl.* 39, *fig.* 7). The earthworks are very large: Figure 6 (*pl.* 39) measures about 100 feet; Figure 10, over 200 feet; Figure 8, 188 feet in length, 140 feet in breadth; the longest work in Figure 7 (a lizard?), which is crossed by a modern road, measures more

than 100 feet, and some not given attain the length of 1000 feet. The work shown in Figure 2 (*pl.* 39) encloses a space of 4500 square feet.

All these monuments (*pl.* 37, *fig.* 8; *pl.* 39, *figs.* 2, 5-10, are from the Wisconsin region) seem to have been sacred places; Figure 2 was certainly at the same time a fortified place, and others lie securely on hills or on land projecting into the rivers (*fig.* 8). Mounds of various shapes, generally terrace-formed, with eroded summits (*pl.* 37, *fig.* 8, 7 feet high; *pl.* 39, *fig.* 5, 23 feet high), which served as tombs and as temple-places and places of sacrifice, are also numerous. Frequently they are in the vicinity of such animal-shaped reliefs and connected with them by artificial roads. Remarkable examples from Ohio are shown on Plate 39 (*figs.* 1, 3), also specimens of pottery (*fig.* 4) found in them. The mounds and animal figures were built, as is proved by the skulls which are sometimes found in the former and by objects in the latter, as also by many similar works of the Americans of to-day, by the ancestors of the North American Indians (Nos. 4 to 9 of our enumeration on p. 209), but at an extremely early period.

In some places these sacred spots have been used for agricultural purposes, furrows passing over them, undoubtedly the remains of farming, and have received the name of "garden-beds" (*pl.* 39, *fig.* 9). The reliefs certainly could not have been furrowed before their ancient signification had been forgotten. This early method of farming is entirely different from that of the Indians of to-day, who sow their maize on separate little mounds called "corn-hills" (*pl.* 39, *fig.* 6); the method of to-day, however, was already extensively known at the time of the discovery of America. It is possible that in the course of millenniums the constructors of the animal figures were driven away by southern agricultural tribes, perhaps belonging to Mexico, and that very much later the descendants of the former inhabitants resumed their old places.

We dismiss these speculations in order to consider what remains of the actual life of the Americans. We begin in the north.

Dress and Ornaments.—The dress of the Eskimos consists of an upper garment, of sealskin; a middle garment, extending from the waist to the knees, of bear- or dogskin; and boots, of turned sea-dogskin with soles of whalebone. The upper garment, always furnished with a hood, which can be turned down (*pl.* 29, *fig.* 7), and which they like to trim with fine furs, is lined with the skins of sea-birds. They often wear several coats, one over the other. Everything is neatly sewn with sea-dog sinews and bone needles (*pl.* 29, *figs.* 4, 6, 7; *pl.* 30, *figs.* 2, 12, 13, 14). In the interior of their dwellings, which they keep very hot, they go about almost naked (*pl.* 29, *fig.* 5). Peculiar caps of artificially bent wood, decorated with carved whalebone or glass beads, and also with the highly-valued beard-bristles of the sea-lion, are, or were, a principal ornament of the Aleutians (*pl.* 30, *fig.* 14; *pl.* 31, *fig.* 2), and similar ornaments are worn by the western Eskimos (*pl.* 29, *fig.* 3). The Kolushes and also the Californians (*pl.* 40, *figs.* 1, 3) wear, where they have not received clothing from the Russians, besides a covering around the loins, only a

blanket of homespun wool or a skin, which they throw about the shoulders like a cloak and tie at the neck (*pl.* 31, *figs.* 5, 11). Generally they are nude.

The north-eastern Indians (from the Yukon to Florida) had a similar attire (*pl.* 31, *fig.* 15); their garments—a blanket, shirt, pantaloons, and moccasins (*pl.* 32, *figs.* 1, 3; *pl.* 33, *figs.* 1, 6)—were mostly made of leather, which they skilfully prepared, painted (*pl.* 38, *fig.* 6), and embroidered (*pl.* 31, *fig.* 15; *pl.* 32, *fig.* 3). They also had woven materials made of buffalo-hair and of plant-fibres, and handsome cloaks made of feathers. Feathers or caps made of them were worn especially at their dances (*pl.* 33, *fig.* 2). The Californians also sometimes pasted feathers over their entire bodies, as is shown by the picture of the dancer (*pl.* 40, *fig.* 7).

An especial festive ornament was made by sewing feathers to a piece of red material, which was worn along the back like a long bristling mane (*pl.* 33, *fig.* 6). Feathers served to decorate the pipes of peace (*pl.* 32, *fig.* 15), also as emblems of various deeds (*pl.* 31, *fig.* 12; *pl.* 32, *fig.* 1; *pl.* 33, *fig.* 5; *pl.* 34), according to the bird to which they belonged, the manner in which they were placed, the place where they were worn—whether on the head, the spear, etc. (*pl.* 33, *figs.* 1, 6)—and the shape which was given them, either the quill or the plume being split and faced with red (*pl.* 36, *fig.* 2). As a matter of course they had necklaces (*pl.* 40, *fig.* 2) and other ornaments.

The so-called wampum-belts (*pl.* 36, *fig.* 9), of polished shells or colored glass beads, were highly valued, and played a prominent part as gifts presented on the occasion of treaties. In the house they gathered their long hair into a knot, and generally removed their superfluous garments (*pl.* 33, *fig.* 5; *pl.* 35), also at dances (*pl.* 33, *fig.* 2; *pl.* 34). The women dressed much like the men, only with less ornament and without feathers (*pl.* 32, *fig.* 3). Snowshoes (*pl.* 32, *figs.* 18, 19) are worn in different shapes by the different peoples. The Eskimo tribes and the Athabascas use glasses to protect the eyes from the glare of the snow (*pl.* 30, *fig.* 5; *pl.* 32, *fig.* 13).

The attire of the natives of South-western North America, who are related to the Mexicans, can be seen on Plate 36 (*fig.* 3), Plate 42 (*figs.* 3, 5, 6, 9), Plate 43 (*fig.* 1); the costumes and materials of Figures 3 (*pl.* 36) and 5 (*pl.* 42) are of European origin. The South Americans generally wear a belt around the hips and cloaks about the shoulders. They are frequently nude, the men concealing only the foreskin or covering the member with leaves or pieces of stuff (*pl.* 46, *fig.* 4; *pl.* 47, *fig.* 11; *pl.* 48, *fig.* 4). Our illustrations make further descriptions superfluous. Feather ornaments, although not of such special significance as in the North, are popular (*pl.* 44, *figs.* 1, 3, 5, 6, 7, 9, 10, 11; *pl.* 45, *figs.* 1, 8; *pl.* 46, *fig.* 3; *pl.* 17, *figs.* 4, 12; *pl.* 49, *fig.* 2); also chains about the neck, arms (*pl.* 44, *figs.* 5, 6), and legs (*pl.* 47, *fig.* 4; *pl.* 49, *fig.* 2), also various kinds of hats (*pl.* 50, *fig.* 2), and the most grotesque masks at dances and festivities, which, however, are not badly designed (*pl.* 45, *fig.* 8).

Usage and etiquette in the smallest details reign nowhere more powerfully than among people in their natural state. Thus, almost everything in the attire of the Indians on Plates 32, 33, 34 has its meaning, which we will here explain, so that our pictures may be more intelligible. The Indians in Plate 33 (*fig. 2*) and Plate 34 have a wolf's tail on the shoe, which indicates that the bearer has performed some deed of bravery in war. The design in the hair-ornament of Figure 5 (*pl. 33*) signifies that he has stabbed an enemy of rank; the split turkey-feather in the same place (*comp. pl. 36, fig. 2*), that he has received an arrow-wound in battle; the erect feathers, that he has slain enemies in a hand-to-hand conflict; those horizontal, that he has killed an enemy in sight of the adverse party; the hand which is painted in yellow color on his left breast, that he has made many captives.

The spear, which is borne as shown in Figure 1 (*pl. 33*), is supplied with a bowstring, and is only ornamental. The handle of the leather whip serves as a whistle. The figure in the background (*fig. 1*) has the very popular breast-ornament of porcupine-quills. The Indians are inexpressibly vain about their finery, but it must be remembered that every particle of it signifies some important event of their lives.

Dwellings.—The dwellings of the Eskimos are generally built of stone and wood, sometimes of wood only, or of snow-blocks. They are usually occupied by several families, each having its own fireplace, and also its own sleeping compartment on a wooden platform divided off by skins. During the day they sit on this platform at their work, the women with their legs crossed under them and the men with theirs hanging down (*pl. 29, fig. 5*). The entrance consists of a low, crooked passage. Through this the fresh air passes into the interior, though sometimes the dwelling apartment has also windows of sealskin. The dwellings and utensils show no cleanliness—generally their hungry dogs are the only cleaners—but the tents built in summer of poles and hides are neater, and are inhabited by only one family. The interior of such a tent is separated from the entry by an embroidered curtain of sealskin (*pl. 29, fig. 6*). They have a variety of household goods; provisions are kept in separate small houses. Their chief articles of food are dried fish, seal and reindeer flesh, and they drink only water.

The Aleutians build their houses partly under ground and cover the upper parts with soil and grass (*pl. 31, fig. 1*). Whilst the Eskimo houses are like those of the Pawnees on the upper Platte, the villages of the Kolushes resemble the Cherokee villages on the upper Tennessee. They are constructed of wood, and in front of each house there is a scaffolding for storing goods, drying, etc. (*pl. 37, fig. 5*). In the interior a bench along the walls, covered with mats, serves for a sleeping-place. The building of the northern Indians is inferior.

The Mandans erect circular huts formed of poles fastened together at the top and covered with leather or bark. The hut is also provided with a rather long entry (*pl. 34; pl. 35; pl. 36, figs. 1, 8*). This style of hut

is widespread. Plate 36 (*fig. 8*) contains the plan of one: *h*, the wall, of short posts; *g*, entry; *f*, leather curtains; *d*, board wall to prevent draught; *e*, part for the horses; *a*, fireplace, over which hangs the kettle, with smoke-hole above; *b*, pillars united at the top with joists, which carry the roof; *e'*, seats of willow-ware covered with mats; *i*, bunk of the family, from which (*pl. 35*) the whole interior can be overseen. Such huts usually cover from fifty to sixty square feet. They form villages, which are generally located in secure places and fortified with palisades (*pl. 36, fig. 1*). Besides these, the Indians have portable summer tents, which are often covered with brightly-painted leather (*pl. 37, fig. 1*). They have numerous household goods, as everything is kept in the houses. They sleep either on mats or in peculiar leather bunks (*pl. 33, fig. 4*).

The houses of the barbarous Mexican peoples of North America are arranged as on Plate 43 (*fig. 1*). Our plates also show the South American dwellings, which are sometimes quite rude and sometimes of good quality (*pl. 44, figs. 4, 8; pl. 45, figs. 1, 5*): the interior of a pointed hut like Figure 5 (*pl. 45*) is shown by Figure 4 (*pl. 44*). Several families generally occupy each hut. Hammocks are universally used as beds (*pl. 44, fig. 4; pl. 45, fig. 1; pl. 48, figs. 7, 9*). Plate 49 (*fig. 2*) exhibits different styles of huts; Plate 45 (*fig. 6*) and Plate 48 (*fig. 9*) are the simplest Brazilian forms. The huts of the Goajira Indians (Gulf of Maracaibo) are built on poles, and partly extend over the water (*pl. 43, fig. 2*).

Sledges and Skiffs.—Their sledges, which are to them in winter what their skiffs are in summer, are made of pieces of wood or bone fastened together by straps and drawn by dogs (*pl. 30, fig. 6*). During winter they stow away their skiffs on special frames. The skiffs are of two kinds. Some, which they call boats for women, are made of framework covered with the hide of the sea-dog, and are capable of holding six or eight persons (*pl. 30, fig. 2*); the others, which are called *kavaks*, are hunting-boats, and are about fifteen feet long, though they hold only one person, who sits in a hole in the deck (*pl. 30, fig. 1*). The men are very skilful both in guiding them and in using their weapons from them.

The skiffs of the Kodyaks (*pl. 30, figs. 8-10*) and of the Aleutians resemble those of the Eskimos, whilst those of the Kolushes are made of hollowed trees. The other Americans, who live inland near lakes and rivers, have not accomplished anything noteworthy in boatbuilding. They all use hollowed trunks of trees (*pl. 37, fig. 6; pl. 46, fig. 4*), though frequently they merely wade through the streams (*pl. 48, fig. 4*). The round leather skiffs of the Mandans (*pl. 35; pl. 36, fig. 1*) and the balsas of Lake Titicaca are peculiar. The latter consist of double leather pipes, and are propelled by oars (*pl. 53, fig. 17*).

Fishing and Hunting Weapons.—The weapons have generally a loose point attached to the shaft by a long rope—a style which exists also among the eastern Americans (*pl. 38, fig. 2*). A bladder is fastened to the shaft,

so that it will float (*pl.* 30, *fig.* 1). The hunter keeps the rope coiled on a frame in the forepart of the *kayak*, and the bladder lying behind him. As soon as he has cast his harpoon at an animal he throws the bladder into the sea, whilst the rope is rapidly unwound by the animal in its frantic efforts to escape (*pl.* 30, *fig.* 1). For hunting sea-fowl the Eskimos use an iron-pointed spear with several bone barbs on the shaft (*pl.* 30, *fig.* 3), which increase the chances of intercepting the irregular flight of the prey. They also use a peculiar throwing-stick.

Agriculture and Stock-Raising.—Agriculture was in a flourishing state among many tribes of North and South America at the time of the discovery. Maize, pumpkins, manioc, cotton, etc. were grown. The maize, which was pounded in peculiar mortars (*pl.* 35, to the left), was the chief article of diet. The more barbarous tribes, of course, lived on the product of the chase (*pl.* 47, *fig.* 6; *pl.* 48, *figs.* 4, 9) and fishing.

Stock-breeding was not carried on extensively in North America, but in South America it is practised by many Caribbean and Brazilian tribes, and principally by the Pampas Indians, who can hardly be imagined without their horses. In North America the dog was in ancient times the only domestic animal, and its flesh was used as food. The people now have horses also, and several tribes keep droves of cattle and sheep. They keep tame animals for amusement, such as birds, apes, deer, etc. (*pl.* 44, *fig.* 6).

Stimulants.—Intoxicating drinks were first introduced to the north-eastern Americans, in spite of their earnest opposition, by the Europeans; but several of the South American tribes had a liquor similar to the cava of Polynesia, and something like it is found among the Kodyaks in the north-west. Their universal use of tobacco is well known. Great attention is given to the workmanship of pipes (*pl.* 32, *figs.* 12, 14-17). In the tombs of the Indians pipe-heads are frequently found, generally made of a much-prized reddish stone, and representing divers figures (*pl.* 38, *figs.* 7, 9, 10, 12), some of which have reference to the sanctity of the tobacco (*pl.* 38, *figs.* 7, 9, 12), which they consider a gift of the Great Spirit, and use at every festivity and solemn transaction (*pl.* 32, *fig.* 15; *pl.* 36, *fig.* 5).

Utensils.—For cooking and table use they have pots (*pl.* 37, *fig.* 3), various earthen vessels (*pl.* 41, *fig.* 6; *pl.* 43, *fig.* 1; *pl.* 44, *figs.* 1, 2, 3, 4, 8; *pl.* 45, *fig.* 1), wooden bowls, which are sometimes nicely carved (*pl.* 31, *fig.* 4), spoons (*pl.* 32, *fig.* 6; *pl.* 37, *fig.* 4), etc.

Industrial Arts.—The Eskimos possess great manual dexterity in bone- and wood-carving, sewing, embroidering (*pl.* 31, *fig.* 13), braiding (*pl.* 31, *fig.* 6; *pl.* 40, *fig.* 6), and metal-working. They forge the metals cold, both copper (which abounds in North America) and iron (which they either mine or acquire by barter). They manufacture dagger-like knives with inlaid-work (*pl.* 31, *figs.* 7-9), rings, idols (*pl.* 30, *fig.* 7), etc. The northern Athabascas possessed similar attainments; the other Indians

generally used stone tools, axes (*pl.* 38, *fig.* 3), knives, etc. Discoveries made in their tombs show that they were more skilful at an earlier period; as, for example, the amulet (*pl.* 38, *fig.* 5) is made of copper. At present the barbarous South Americans accomplish very little (*pl.* 46, *fig.* 4; *pl.* 48, *fig.* 5).

Painting and Sculpture.—The Indian sculptures in stone—as, for instance, the pipe-heads (*pl.* 38, *figs.* 7, 9, 12)—deserve praise. Though it cannot be denied that some of their carvings are quite handsome, still the industrial attainments of the Americans are insignificant. Their leather-work (*pl.* 36, *fig.* 6; *pl.* 38, *fig.* 6) is excellent and tasty, and the paintings with which they decorate the leather are passable. They paint a record of their deeds or ancestry on their hide-cloaks (*pl.* 38, *fig.* 6), huts, shields, etc.; and these paintings are of great importance, being in the nature of hieroglyphics. They make similar records on memorial stones (*pl.* 32, *fig.* 2), on tablets of birch-bark, and on metal plates, all of which they sacredly preserve, and at times read for the instruction of their young people.

Some of them have a religious purport (*pl.* 36, *fig.* 7; *pl.* 38, *fig.* 8), for the magician-priests preserve in this manner the songs and rules of their secret societies (*pl.* 37, *fig.* 9). They are of course difficult to interpret. Plate 38 (*fig.* 11) shows the beginning of a petition of the Chipeweway chiefs to Washington. The animals *a* to *g* are the coats of arms (totems) of the several petitioning tribes; *a*, that of the conductor of the petitioners, whose path to Washington is marked by the line *i*; the lines from eye to eye signify unity of opinion; those from heart to heart, the "one-heartedness" or unity of purpose of all the petitioners; *h*, the Great Lakes whence the embassy came; and the line passing beside *h* signifies the road to the inland lakes.

Figure 5 (*pl.* 36) refers to tribes, not to individuals: an Iroquois chief, wound about with rattlesnakes as a sign of his superhuman strength, receives the homage of Mohawk warriors. The rock-paintings of the South American Indians (*pl.* 45, *fig.* 7) are unimportant.

Poetry and Music.—The poetry of the American peoples deserves some attention. Though often their imagination runs riot and becomes absurd, yet their tales contain much that is really beautiful and thoughtful. The Indians are justly famous as orators.

Their musical accomplishments amount to nothing, their only instruments being drums, clappers (*pl.* 34, to the left; *pl.* 49, *fig.* 2, second figure to the left; *pl.* 49, *fig.* 3, a calabash filled with stones on a staff), and divers flutes (*pl.* 32, *figs.* 9, 11). In Brazil they have a speaking trumpet which they use for invitations to festivities and for summons to war (*pl.* 47, *fig.* 9).

Social Life.—In North America the men are occupied with the political assemblies, at which strict ceremony prevails. Fixed forms of politeness prevail, especially amongst strangers. Although the North American appears outwardly sedate, he is not free from violent passions nor devoid of a sense of humor.

There are various games (*pl.* 32, *fig.* 5; *pl.* 38, *fig.* 4), nor is there lack of feasts, which always have religious meanings, such as the feast of puberty, which was often connected with cruel ceremonies (tearing of the flesh, letting of blood, etc.), the harvest festival, etc., at all of which dances and grotesque processions were prominent features. The dancers wear masks representing the animal from which the dance derives its name, or very grotesque costumes (*pl.* 33, *fig.* 2; *pl.* 34; *pl.* 40, *fig.* 7), and indulge in much noise.

In South America the feasts are similar, but less spirited. The principal ones are the strange nocturnal dance of the Puris (*pl.* 49, *fig.* 1); the three days' feast and procession of the Tecunas, celebrated in honor of a two months' old child (*pl.* 45, *fig.* 8); and the drinking-feast of the Camacunas, at which a half-fermented liquor is drunk from a hollow tree-trunk, accompanied by singing, or rather howling (*pl.* 49, *fig.* 2). The longer these dances last, the more passionate and dissolute they become; and they often conclude with the war-dance (*pl.* 47, *fig.* 4).

Weapons.—In the north the weapons besides the bow and arrow (*pl.* 33, *fig.* 2; *pl.* 38, *fig.* 1; *pl.* 40, *figs.* 4, 5) consisted of spears (*pl.* 33, *figs.* 1, 6; *pl.* 34), battle-axe, tomahawk (*pl.* 32, *fig.* 1; *pl.* 33, *fig.* 5), clubs (*pl.* 32, *figs.* 4, 8; *pl.* 34), wooden shields (*pl.* 33, *fig.* 1), and blowing-pipes. Firearms are now used almost everywhere. Of the arms of the South Americans, which are shown by our plates (*pl.* 44, *figs.* 4, 9–11; *pl.* 46, *fig.* 5; *pl.* 48, *fig.* 4; *pl.* 50, *fig.* 2, etc.), we call attention to the very long spears of the Patagonians (*pl.* 50, *fig.* 2) and to the *bodogue* of the Guaranis, their neighbors (*pl.* 48, *fig.* 8), the latter weapon being a sling shaped like a bow, in the double cord of which the stones to be slung are placed.

Wars.—War was always formally proclaimed, and was waged (except among the Eskimos, who are wholly ignorant of it) with great ferocity; but sanguinary open battles seldom occurred. Foraging-expeditions in search of scalps or booty were common. Peace was concluded by burying the battle-axe or solemnly smoking the pipe of peace, which was preciously decorated (*pl.* 32, *fig.* 15; *pl.* 36, *fig.* 5). Scalps were retained by the victor as a decoration for his spear-shaft, etc. (*pl.* 33, *fig.* 1), or they were stretched on a frame (*pl.* 36, *fig.* 2), around which the women danced at times. In ancient times many tribes tortured their captives, believing that this revenge was helpful to the souls of their own slain.

Cannibalism, which prevailed in earlier periods more than in later, was by no means universal in North America. The heart was eaten. The Caribs, or Cannibals—from whom the word cannibalism is derived—lived in South America (Guiana, Brazil), but they were not greater man-eaters than other tribes, by some of which, it is said, dead relatives were devoured. The Mundurucus (on the Madeira) cut off the heads of their enemies, and after drying and stuffing them carried them about with them (*pl.* 47, *fig.* 5.) In South America utensils were sometimes made of the bones of the enemy, drinking-cups of their skulls.

Family Life.—Life for the woman in South America means continual work, the men either doing nothing or being engaged in war (*pl.* 46, *fig.* 5), hunting, or roaming (*pl.* 48, *fig.* 4). A glance at the family life of the North Americans is more cheerful, although the woman is badly treated, having to perform hard work, even to building the huts (the men, however, construct the skiffs) and carrying everything; sometimes she is exposed to the most barbarous abuse. Love between parents and children is strong. The manner in which children are carried is shown on Plate 42 (*fig.* 3), Plate 45 (*fig.* 8), Plate 47 (*fig.* 6), Plate 48 (*fig.* 4), Plate 49 (*figs.* 2, 5). The Athabascas have particular little chairs for the children (*pl.* 31, *fig.* 15). The Algonkin and related tribes have leather cradles, which are fastened to a board and carried on the back (*pl.* 36, *fig.* 6).

The children are rarely educated. The giving of the name is celebrated with a feast, and the feast of puberty is of the greatest importance, for at it the youth receives his "medicine;" that is, by means of a dream, the "dream of life," he seeks to find out the animal in which his guardian spirit has been incorporated. The skin of that animal is considered an amulet. It is carried by the Indian on Plate 33 (*fig.* 1) in the white bundle on his shield.

Matrimony.—Marriage is easily contracted and easily dissolved; polygamy is permitted, but is not frequently practised on account of its cost; and adultery is rare and severely punished. Although perfect freedom is allowed the females before marriage, their life is generally moral. But cases of passionate love are not infrequent, and the favor of women is duly appreciated: young men among the Dakotas, for instance, carry bundles of rods corresponding to the number of their successful love-adventures (*pl.* 32, *fig.* 10).

Government.—The government seems to have been based on the family. Among the Eskimos and the Kolushes each family is independent, but among the latter people we find several families united into a clan which has some animal for its guardian spirit and sign or coat of arms. Such coats of arms, or "totems," are shown on Plate 38 (*fig.* 11): *b* is the so-called "man-fish," a being partly fish, partly man, which the Chippeways' myths represented as living in the upper lakes. The bird (*pl.* 32, *fig.* 2) also seems to be a totem.

The so-called "bands" or associations, with certain laws, customs, and signs, which are found among the American peoples, have probably derived their origin from these clans. Such a band among the Mandans were the "Dogs," whose festive costume and ensign (clapper) are portrayed on Plate 33 (*fig.* 2). Certain dances are performed exclusively by these societies; as, for instance, the buffalo dance by the Buffalo Band (*pl.* 34), at which particularly famous heroes wear the head of a buffalo. Another society-badge is shown on Plate 36 (*fig.* 4). The different societies had also signal-pipes of different shapes and tones, which the members wore, together with the badges, around the neck (*pl.* 32, *fig.* 14; *pl.* 33, *fig.* 2).

Several tribes often united in confederacies as a check upon excessive division. The same conditions obtain in South America. In the north great councils or assemblies of the people are held with much solemnity, but in the south they are more lax.

Death-and-Burial Ceremonies.—Among the Eskimos the dead are buried. The corpse is never carried out through the door, but through the window or the wall of the tent, while the inmates shout after it, "No one else to be had here"—a custom which we shall also find among the Chipeways of the upper lakes. They fear that the deceased might draw the living after him, and they believe that his path should not be trodden by the living. When he is buried all his effects are put on his grave, and the lamentations for him are frequently repeated during the space of about one year. The practice of making offerings at the grave existed among the Kodyaks, who buried the dead in the manner shown on Plate 30 (*fig. 11*), and among the Aleutians, who, as did many North American Indians, embalmed the corpses and suspended them in boat-like coffins or interred them in caves or in painted tomb-boxes. The latter manner of burial also prevails among the Kolushes (*pl. 31, fig. 10*); coffins in the shape of ships are used by the Kenais (Athabascas, *pl. 31, fig. 14*); many other tribes east of the Rocky Mountains lay out the dead on scaffoldings, either simply wrapped in cloths or placed in coffins (*pl. 37, fig. 2*); others bury prominent individuals, especially great warriors, in a sitting posture; and the Aleutians inter all males in that manner (*pl. 37, fig. 8*). This practice is now steadily vanishing. The bones are collected by many tribes and put in large charnel-houses which belong to the tribe in common.

We have already considered the old grave-mounds (*p. 216; pl. 37, fig. 8; pl. 39, fig. 5*); they are at present used preferably by the Indians for their graves, which are built in various ways, often quite artistically. Such a superstructure of the simplest kind, and reminding us in a measure of Plate 30 (*fig. 11*), is shown on Plate 37 (*fig. 7*). Cremation of corpses occurred rarely. Often the grave was decorated with a pole carrying the totem of the deceased (*pl. 37, fig. 2, to the left; pl. 34, to the left, the pole with the skin, with which compare pl. 20, fig. 9*). In some places lamentations for the dead found very singular expression: offerings to the dead were plentiful, and chiefs of high rank, when dying, often partook of their own funeral meal. Similar customs prevailed throughout South America.

Religious Belief.—The soul was believed to be immortal; the dead lived on in the Hereafter in an earthly manner—the good, the warriors, etc. happily, the wicked and the cowards in a penitential condition. The Indians also believed that the spirits of the dead exercised an influence, generally an evil one, on the living; however, the souls of powerful ancestors (for which the stars were taken in some places) often became guardian spirits. These latter act a prominent part: they appear to the individual in his "dream of life," either as an animal or a plant, which then becomes his totem. Accordingly, many animals are sacred to them, such as the

rattlesnake (*pl.* 36, *fig.* 5), the beaver, the bear, etc. The sun, the moon, stars, and fire were worshipped.

The belief in an evil being, which had to succumb to the good spirit, existed, and inferior spirits, fairies, elves, giants (*pl.* 38, *fig.* 8), water-sprites, etc., are not wanting. An example is shown on Plate 36 (*fig.* 7). This Indian picture represents the spirit of a meteor running away because he imagines the woman who is eating roasted chestnuts to be a fire-eater. All the Americans possessed a deep religious feeling, and they often prayed to their gods in a sensible manner. They undertook nothing without religious preparation. But their religion had a dark side, for they were superstitious to a high degree.

Idols.—Idols were by no means common: the principal images seem to have been those of the guardian spirits, among which are to be classed the old earth-reliefs (*pl.* 39, *figs.* 6, 7, 8, 10), although among them the famous snake monument, about seven hundred feet in length, is probably a representation of the Great Spirit or of the Evil Spirit; and those of ancestors, whose images were worn as amulets (*pl.* 30, *fig.* 7; *pl.* 38, *fig.* 5). Other idols occur throughout the continent, often of a grotesque shape. Barbarous images of the sun are found in South America frequently in rock-sculpture (*pl.* 45, *fig.* 7, at the bottom, to the left, and the strange figures in *fig.* 8, probably represent gods).

Temples were rare, and did not at all exist in the extreme north of America. But the priests—called *angekok* by the Eskimos, *medicine-men* in North America, *pioches* by the Caribs and Tupis—possessed great influence. The priestly office was not easily attained, for candidates were obliged to submit to many, and often painful, trials. Among some tribes of North America supernatural power was attained only by the consumption of human flesh, by which, as it were, a second soul was acquired. The priests were principally those who offered sacrifice, which consisted of animals, fruit, and also children, the latter especially in order to gain victory or a rich harvest; but generally they were only magicians, fortune-tellers, conjurers of ghosts, and healers of the sick in an absurd or immoral manner. Among the Patagonians, for instance, they wore female attire. They performed their jugglings in special huts, the medicine-huts of the North Americans serving the latter as temples.

All disease was held to be the result of demoniacal possession, and was therefore to be cured by exorcisms, though some rational remedies were occasionally applied. The priests were despised, though they were feared on account of their power, and were sometimes killed when their medicine or incantation had not the desired result. Besides the assistance of the priests, various magic agencies were employed; thus, for instance, Plate 33 (*fig.* 3) shows a magical monument of the Dakotas which was probably also a society emblem.

The priests gained a special influence by means of the secret religious associations which were found everywhere both in North and South America (Dakotas, Caribs, etc.). The much-despised men who wore

female attire formed such a society, but there were also other societies of higher rank into which persons from different tribes were admitted with solemn ceremonies. We shall mention only the Meda League, whose members—magicians and physicians of power—were supposed to stand in close relation to the gods.

Their sacred songs descriptive of their rites were written in hieroglyphics, a specimen of which is given on Plate 37 (*fig. 9*). *a* is the medicine-hut of the Meda League, containing the Great Spirit, and represents the song which must be sung by each candidate: "The Great Spirit's house, of which you have been told, I will enter it;" *b* represents the novice with a crown of feathers and a pocket of adder-skin (*c*), and is the sign for a second song by the novice; the curved line which follows denotes recess, during which a meal was taken; *d* is a man carrying a dish; *e* a steam-bath which every novice had to take, such baths being a main feature in the religious life of the Americans; *f* is the arm of the priest who receives the presents (*g*) brought by the novice; *h* is the Meda tree with its magical roots. The whole is a representation of an initiation into the Meda League, and at the same time a mnemonic guide for the songs accompanying the admission.

The preceding affords an outline of the life of the American aborigines: it only remains to make some supplementary remarks about the civilized tribes. We have already seen that many barbarous peoples were closely related to the highly-cultivated Mexicans. Plates 40-43 contain types of these peoples, and Figures 8, 9 (*pl. 40*), 8, 9, 10, 11 (*pl. 41*), copied from ancient Mexican paintings, show us the costumes of the ancient Mexicans. The garments were made of cotton. Montezuma does not appear in the picture in grand gala costume, as he wears neither ear-bells, bracelets, nor a ring in his lower lip. He carries a flower, the favorite decoration of the Mexicans, and a cane with odoriferous resin. The band in his hair, and above all his bare feet—sandals made of fibres of the cactus were commonly worn—are marks of his rank.

The king, whose right was derived from God, possessed unlimited power and received the most exaggerated veneration. He was not permitted to walk, but was always carried. Succession to the throne was hereditary in the female line, but the nobles had great influence in determining the selection. Next in rank to the king were the nobility, which were divided into several classes. The king, assisted by several high officers, was supreme judge and commander-in-chief.

The Mexicans, who were often brave to fearlessness, went to war almost entirely nude, as the warrior on Plate 40 (*fig. 8*), illustrates—the net which he carries is to capture the enemy—but generally a thickly-lined jacket of cotton and a wooden helmet were worn (*pl. 40, fig. 9*), as were also guards for the arms and legs (*pl. 42, fig. 4*). The shields were made of cotton trimmed with feathers (*pl. 40, fig. 9*). The weapons consisted of slings, clubs, bows and arrows, swords, knives of obsidian, and spears which were in part thrown with a spiral throwing-strap. The costume

of the Mexicans (Indians) of to-day is shown on Plate 41 (*fig. 1*). The blouse of the man is striped blue and white, his pantaloons are of goat's leather.

We see their dwellings on Plate 41 (*figs. 6, 7*), the latter representation scarcely differing from the dwelling of a related barbarous tribe shown by Figure 1 (*pl. 43*). The ancient Mexicans excelled in architecture, and their large cities were ornamented with magnificent stone palaces, which (in Mexico) were partly built on pile-work. Their bridges, aqueducts, and temples were also admirable. On Plate 43 (*fig. 5*) are shown sections of a remarkable engraved stone pillar from the ruins of Tula in the Valley of Mexico; Figure 9 is a cross-section of a stone bridge near Tezcuco, and Figure 11 represents a restoration of the celebrated pyramid of Papantla in the state of Vera Cruz. The art of arching was known to them, as is proved by the remarkable hill of Xochicalco, which is most probably an ancient fortification or a fortified temple-place (*pl. 41, figs. 4, 5*). The hill is conical, smooth, and surrounded by terraces each 20 metres ($65\frac{1}{3}$ feet) in height, and at its base by a broad deep ditch, *g*. The level top was ornamented by a high pyramidal-shaped terraced structure (like *pl. 42, fig. 1*), whose large blocks of stone were united by polished joints and were entirely covered with reliefs. Lying concealed in the hill are subterranean chambers which were entered at *A* (*pl. 41, figs. 4, 5*) by long, widely branching passages (*C-E*), and which were ventilated by means of arches (*H*) reaching to the surface of the hill (a section of one is shown at *J*). Back of the dressed natural rock (*I*) there is the open space *G*, which is supported by two pillars (*F*), also of dressed stone, and constructed like the chamber on Plate 41 (*fig. 2*).

This latter illustration, as also Figure 3, represents details from the ruins of Chichen Itza and Uxmal, extensive cities built by the Mayas, a people related in culture to the Aztecs. The construction of the ceiling is very peculiar: it may be called a triangular beehive arch, the walls approaching each other up to a small horizontal plane on the ceiling (*pl. 41, fig. 3*). The head depicted on Plate 43 (*fig. 10*, Northern Yucatan), which is no doubt an idol with genuine Central American features, as is shown by the curved thick nose and the projecting upper lip (comp. *pl. 42, fig. 4*), affords an example of the sculpture of the Mayas.

This model is found at other places—in the ruins of Palenque in Guatemala, at the temple of Xochicalco in Mexico, etc. It represents the deity of the temple as a victorious hero, with two worshippers in garb of slaves supplicating him. Particularly noteworthy are the helmet decorated with feathers, ribbons, and flowers; the sceptre, whose point carries the eagle, which was the coat of arms of the city of Mexico; and the striking costume, consisting of a close-fitting, long-sleeved jacket, network collar, a belt decorated front and back with heads of the enemy and below by a leopard skin, of guards for the legs, and of a fan. This representation was generally repeated at both sides of the temple-entrance.

Also important, as being an artistic production, is the granite vase (*pl.*

43, *fig.* 8) which was dug up on the Mosquito coast, and which is of decided Mexican workmanship, for its ornamentations are exactly like those of the ruins of Mitla. The images of animals (*pl.* 43, *figs.* 4, 6, 7) found at different places in Central America, and which served as boundary-marks, are of inferior workmanship. In them we may recognize guardian spirits, who were frequently worshipped in Mexico in the guise of animals.

In other respects the religion of the Mexicans resembled the religions of the other American peoples: they had one invisible supreme God, who was the first cause of all things, and who was, in some regions, worshipped quite monotheistically. The sun was also worshipped, being confounded with the Supreme Being, and the natives of Managua (on Lake Nicaragua), gave the name of "sun" to the snake image, three feet in diameter (*pl.* 43, *fig.* 3, right), which was associated with other rock-painted hieroglyphics, now partially destroyed, but depicted on Plate 43 (*fig.* 3, left). Besides these chief gods there were innumerable others, some of which seemed to be deified human beings, others to have been received from immigrant or conquered peoples.

The Mexicans had likewise lower deities, demigods and domestic divinities, and a quantity of mythological traditions, flood-legends, myths about the creation, and various kinds of superstitions; their prayers were offered in a crouching posture (*pl.* 42, *fig.* 4), and were uttered with great feeling; and their ethical rules, which were applied in education, and which were frequently based on ancient written traditions, have about them an air of elevated morality. Chastity was generally prevalent. One law of their religion required each individual to confess his sins to the priest, and if then he did not falsify to the all-seeing God, he was forgiven and cleansed. Nevertheless, the refinement of this conception and many others of a similar character failed to exclude from their religious rites the most barbarous sacrifices.

Sacrifices.—Human beings were sacrificed on all important occasions, the nourishment of the gods being supposed to consist of the blood and heart (seat of the soul) of man. However, in general only flowers, fruits, incense, and part of their food were offered. The temple-structures, in which the skulls of the sacrificial victims were preserved, were very extensive, all of them fortified and enclosing a number of buildings, taverns, dwellings, warehouses, etc. The real *teocalli* (house of the gods) was situated in the courtyard. Plate 42 (*fig.* 1) represents one without temple-surroundings, as was frequently the case. Chapels with idols were quite numerous; the images, as a rule, were absurd, but figures of a finer order have occasionally been found (*pl.* 41, *fig.* 12; *pl.* 42, *fig.* 4; *pl.* 43, *fig.* 6). The chapels were situated on pyramids, as were also the altars of sacrifice, such as is seen in the centre of the four pyramids (*pl.* 42, *fig.* 1). The priests, who were very influential, formed a separate class of various degrees. Priestesses, and especially temple-servants, etc., were numerous; there were also very severe religious orders and the priests practised strict

asceticism. The belief in an eternal life, and in reward and punishment in the Hereafter, prevailed everywhere, and accordingly the interment of the dead—which were generally buried, though sometimes cremated—was solemn.

Industrial and Intellectual Acquirements.—Having seen in all this the high degree of development attained by the Mexicans, we shall find a similar stage of progress in their industrial and intellectual acquirements. Their works in metal, their textile fabrics, and their commerce had reached a considerable advancement, and their well-developed chronology deserves especial attention. Other American tribes calculated time according to the moon and the sun, but the Mexicans had a complete calendar, zodiac, etc. They also had paper made of cactus-fibres, and the use of hieroglyphics was general. Besides, they kept public records, of which we give a small specimen on Plate 42 (*fig. 2*) relating to the founding of Tenochtitlan (Mexico). The coat of arms of the city, visible in the centre, is an eagle on a cactus; for, according to an ancient prophecy, the wanderings of the Aztecs were to cease where an eagle should settle on a cactus. The ten heads signify the ten founders of the city; the sign under the cactus, the weapons of subjugation; the plants and cross-bars, the fertility and irrigation of the country.

We proceed to treat of the other great civilized people of America, the Peruvians (Quichuas and their nearest relatives the Aymaras), and shall include with them several neighboring tribes, the Moxos, Chiquitos, etc., although they are probably not closely related.

Costume.—The costumes of all these peoples are shown on Plate 50 (*figs. 3, 9*), Plate 51 (*figs. 1, 4, 5*), Plate 53 (*fig. 18*). The Peruvians before the subjugation wore garments of cotton, the women wearing long skirts, the men shirt-like over-garments which reached to the knee. The Moxos still wear such garments, either of cotton or of the fibres of the fig tree (*pl. 51, fig. 4*). The costume of the king (Inca) and of the nobility was different from that of the people; on Plate 52 (*fig. 1*) we see an Inca, but probably not without a later European modification of the costume. His principal distinction was a crest of feathers on his frontlet and a red tassel on his forehead. The nobles wore a similar tassel on the left ear, and all persons of rank wore heavy ear-drops.

Government and Religion.—The constitution was similar to that of Mexico, the king being an absolute monarch and sacred person; a nobility of various grades stood between him and the oppressed people. The religious views of the Peruvians (Quichuas and Aymaras) resembled those of the other tribes of America; they had one supreme God, whom they worshipped as a pure spirit, although they erected temples in his honor and made offerings to him. The sun was extensively worshipped as the family god of the Lucas, who wore its image as an ornament (*pl. 52, fig. 1*). There were also many other gods, amongst which the moon, the ocean, the earth, and an evil spirit in the interior of the earth—the Mexicans likewise believed in such a being—besides a number of ele-

mentary spirits, deserve mention. We find here, too, legends of the Creation and the Deluge, as also stone giants (*pl.* 38, *fig.* 8) like those whose acquaintance we made above (p. 200); likewise spirits in the forms of animals and plants, abstract deities of the different trades, and worship of the souls of former sovereigns, some of whom seem to have been deified.

It is remarkable that here, as well as in Mexico, the cross was used as a sacred symbol (*pl.* 52, *fig.* 1) before the advent of the Europeans, and was utilized as an ornament in architecture also—for instance, in the temple (*pl.* 52, *fig.* 2)—but of greater importance is the fact that here too was found that pious and sincere faith which so frequently distinguished the American Indians. This was exhibited in the magnificent temples which they erected everywhere; in the great respect paid the priestly hierarchy and the cloistered Virgins of the Sun; in the religious feasts, at which confession of sins, fasting, and severe penance were practised.

Sacrifices.—Their sacrifices were numerous, and consisted of flowers, fruits, animals (often in large numbers), articles of value, and on especially important occasions of human beings, who were generally willing victims. Sacrifices were offered in the temples or on certain stone pyramids with broad flat tops, easy of access, where they also recited their prayers (*pl.* 52, *fig.* 8). There were other less prominent altars in the open air, especially near ponds and springs, as they believed man to have proceeded from the water, and at spots where passers-by would be likely to offer gifts (*pl.* 53, *fig.* 14).

Idols.—Idols were numerous. The large stone image (*pl.* 53, *fig.* 16) of Tiahuanuco (south of Lake Titicaca), which is of excellent workmanship, is especially interesting. It is in a crouching posture (comp. *pl.* 50, *figs.* 5–8; *pl.* 52, *fig.* 5), one hand on the knee, in strange costume, with a necklace of buttons, some of which are also displayed on the turban. The lines under the mouth suggest tattooing (comp. *pl.* 40, *figs.* 1, 3). Inferior gods of a domestic character called *canopa*, made of gold, silver, etc., are found everywhere; they are represented with long ears, because the people of rank, in consequence of their heavy ear-ornaments, were also long-eared (*pl.* 52, *fig.* 4; *pl.* 53, *fig.* 2); while the thick head reminds us of the national peculiarity of the Peruvians (comp. *pl.* 50, *fig.* 1).

Earthen Vessels and Utensils.—The shape of many of their earthen vessels, which they made very gracefully, possessed a religious significance. A specimen is illustrated on Plate 53 (*fig.* 1). Maize was believed to be sacred, its divinity finding various representations (*pl.* 53, *fig.* 2); and such, we may suppose, was that on the handle of a vessel (*pl.* 53, *fig.* 1), consisting of a head made entirely of spikes of maize. The vessel shown on Plate 52 (*fig.* 5) represents a priest with a sacrificial cup; his strange attire, a hooded gown with bright-colored belt, and his crouching praying posture (comp. *pl.* 42, *fig.* 4), deserve attention. Figure 7 (*pl.* 53) may be similarly interpreted, perhaps as being a pious pilgrim; and so too we may recognize religious significations in the ornaments on

Plate 52 (*fig. 7*), Plate 53 (*figs. 3, 8, 10, 15*). The Peruvians were very skilful, and exhibited great taste in the manufacture of their vessels, which were often double (*pl. 52, fig. 6*) and even quadruple. Their work in metal, by dint of good methods of smelting, despite their unskilful mining shows some remarkable results in the way of utensils (*pl. 53, figs. 1, 3-6*) and artistic objects (*pl. 52, figs. 11-13; pl. 53, fig. 2*). For their sun-temples, which were covered with golden tiles, their goldsmiths manufactured chairs and entire gardens of gold, held sacred to the sun, and of silver, which were sacred to the moon. Together with these utensils we note also their weapons, among which were slings, spears, wooden shields, and lassoes.

They had fixed army and war regulations. They accumulated the heads of the enemy and made them into drinking-cups and ornaments. Necklaces were not unfrequently made of the teeth of enemies. All large cities were fortified, and there were besides many fortresses, generally erected on rocky heights, surmounted by a citadel and surrounded by concentric walls. The ruins of such a fortification situated south-east of Lake Titicaca are shown on Plate 53 (*fig. 19*).

Structures.—Their highroads, their bridges, their palace and temple structures, are famous. While their private houses in the numerous populous cities were built of unburnt brick (adobes), and sometimes of cane or stone—the number of apartments being greater or less according to the means of the owner—they yet built their temples and palaces of ashlar, often of huge stones, whose joints were generally made invisible by polishing. The doors are always very high, and narrower at the top; sculptured ornaments occurred rarely. A temple-structure of this kind is portrayed on Plate 52 (*fig. 2*), and the remains of one of the innumerable Inca palaces, with six encircling walls, on Plate 52 (*fig. 3*). Plate 50 (*fig. 4*) illustrates the present architecture of the Quichuas.

Music.—Their music is highly praised; their instruments consisted of Pan's flutes (*pl. 53, fig. 11*), kettledrums (*pl. 51, fig. 1*), zithers, etc.; while the Moxos had long bamboo tubes, which they beat (*pl. 51, fig. 5*). Some of their dances of the present day and the strange costume worn at them are depicted on Plate 51 (*figs. 1, 5*).

Science.—Their scientific accomplishments also were not insignificant. They seem to have had an elementary and rude kind of hieroglyphics, although the interpretation of their various stone sculptures is not quite clear (for instance, *pl. 53, fig. 9*). Of great importance were the *quipus* (*pl. 53, fig. 12*), which consisted of heavy cords, from which variously colored thinner ones branched off, and which were knotted once, twice, or three times. The colors signified different objects, red denoting war or soldiers; green, maize, etc.; the single knots represented 10, the double ones 100, and the treble ones 1000. In this manner the quipus served as the record of complicated transactions and accounts. Their use and explanation constituted a special science and occupied learned professors. Other specialists were in possession of astronomical learning; they had

a very ingenious time measurement; others, again, had knowledge of medicine, geography, and so on. There were also professional poets, and the works of the Quichuas in poetry and eloquence are not unimportant.

They believed in immortality, recompense after death, and either buried the dead or entombed them in various structures, which were sometimes shaped like towers, sometimes like ovens (*pl.* 49, *fig.* 5; *pl.* 50, *fig.* 1, background). These contained the dead either singly or in greater numbers; in the latter case the corpses were distributed in larger chambers and placed along the walls. The corpses, to which artificial eyes (*pl.* 47, *fig.* 10) made of a yellow shining substance were sometimes given, were generally placed in a crouching posture, because this was the posture of prayer, and were thickly wound about with cloth. The dead Incas were embalmed and placed on golden chairs in the temple of the sun. Many other corpses have been preserved by the peculiar condition of the soil and the dry air (*pl.* 50, *figs.* 5-8). Valuable articles were often deposited in the graves. Numerous slaves were slain at the tombs of the nobles, and sometimes the wives became willing victims of the death-sacrifice.

General Conclusions.—Our description has shown so many common customs and so similar a physical structure from Cape Barrow to Cape Horn that we are led to the conclusion that the population of this wide expanse was of the same race throughout; and this conclusion is all the more evident as we have not specially sought to bring together the similarities. The fundamental traits of these peoples are also in unison, especially if we consider the different circumstances in which they lived. The Eskimos, separated into single, independent families scattered over an immense and inhospitable region, and chiefly depending on animal nourishment, cannot possess the taciturn, solemn earnestness of the Indians whose mode of life is conventional. But neither in the Indians nor in the aborigines of Mexico and Peru did that exterior seriousness exclude a cheerful temperament, which could enjoy a game such as the ball-playing that was so popular in Mexico.

All Americans are hospitable, brave, proud, and sensitive; at the same time they have powerful passions and lasting, deep feelings. These traits are exhibited in their religious and family life and in their tribal relations, by their devoted faithfulness and gratitude, as well as by their vehement revengefulness. Grave offences rarely occur. Cleanliness, which was often found among the barbarous or half-civilized tribes, was a permanent quality of the civilized peoples. The very depth of the American character accounts for the earnestness which the Indian easily assumes, and also for the readiness with which he yields to indolence; and its darkest shadow is not cruelty to an enemy, which we have accounted for, but the treatment of women.

The intellectual capacities of the American races are of a high order, as has been proved by our entire description; this is true not only of the Peruvians and Mexicans, but also of many other North American tribes,

as the Eskimos, and of many in South America, as the Caribs and the Araucanians. The Americans should not be judged by their present condition nor by single degraded individuals, as is so often done. The fault was not wholly theirs if they have been hostile to European culture, which almost everywhere they manifested a capacity for adopting. And if many tribes have passed away without apparently accomplishing anything for the benefit of mankind, others deserve great credit.

Mexican and Peruvian civilization is annihilated, and impartial history knows by what means; but the fact that the Spaniards could so easily and in so short a time establish new kingdoms and civilizations was mainly due to the merit of the destroyed peoples. These had prepared the soil on which the European prospered, and yet the culture attained by the latter was comparatively inferior to that which the natives had reached by their own unaided exertions.



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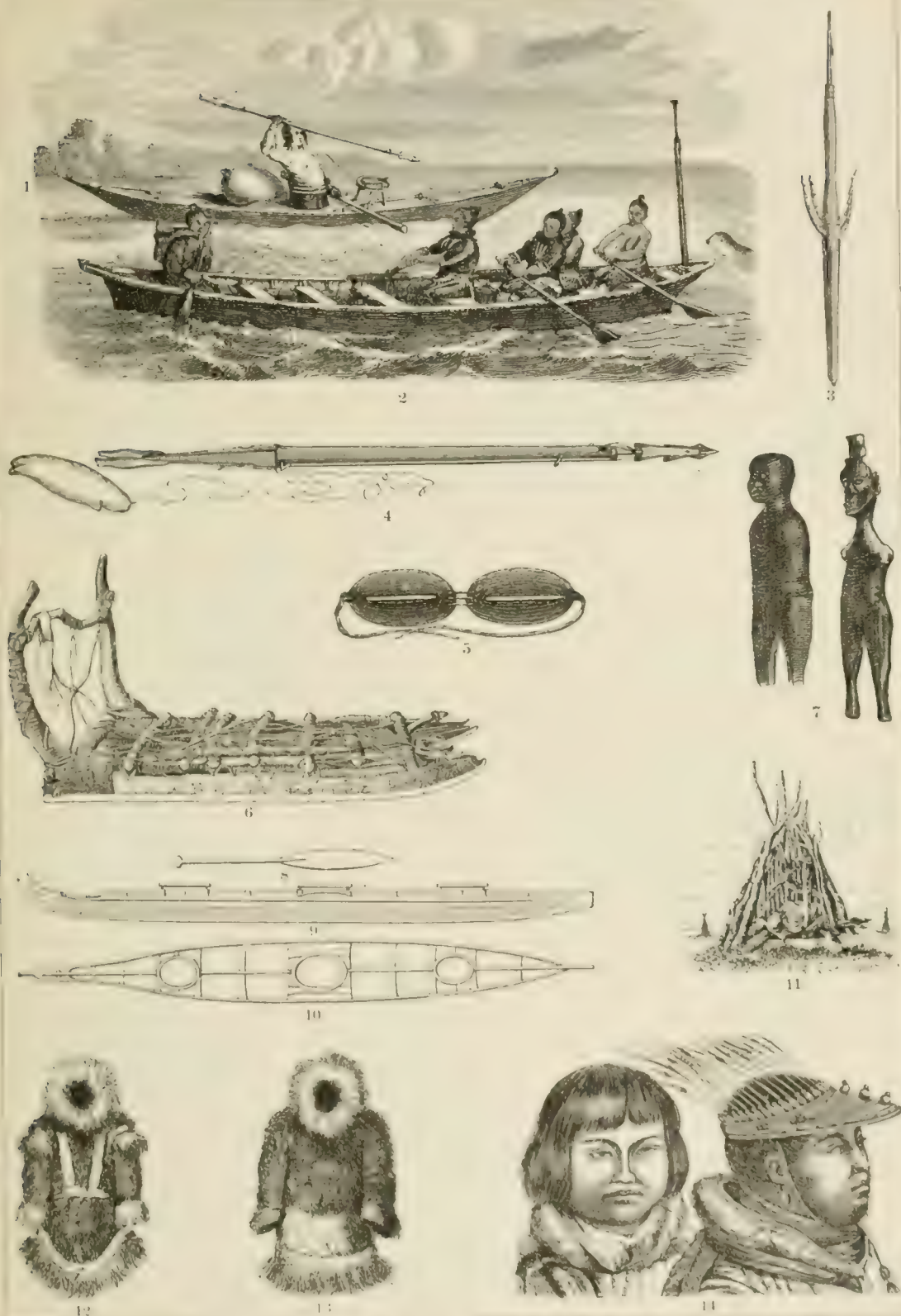


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HALLIBORANS. 1. Eskimo of Greenland. 2. Woman of same. 3. Eskimo of Kotzebue Sound, Arctic West in Eskimo. 4. Eskimo from Prince Regent Bay (Greenland). 5. Winter house. 6. Summer tent, in Eastern Greenland. 7. Eskimo woman, from Upernivik (Greenland).



HYPERBOREANS. 1. East Greenlander in his kayak. 2. Boat of the East Greenlanders. 3. Casting spear (for sea fowl) of the Eskimo. 4. Greenland fish-spear. 5. Snow-glasses of the Western Eskimo. 6. Eskimo sledge. 7. Tools from a grave in East Greenland. 8. Pa'lic. 9, 10. Boat of the Kolydes. 11. Manner of burial among the Western Eskimo. 12, 13. Fur coats of the Malanimutes (Alaska). 14. Inhabitants of the Aleutian Islands.



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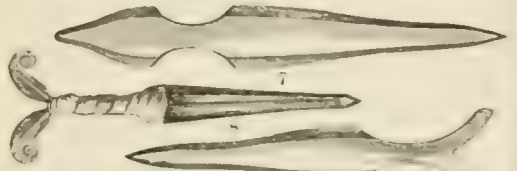
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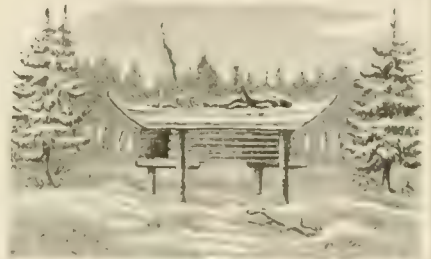
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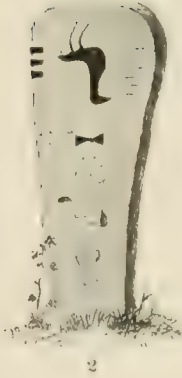


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HYPERBOREAN. 1. Dwelling of the Aleuts. 2. Cup. 3. Implement, of the Aleuts. NORTH AMERICANS. 4. Vessel (Haski) of the Kiliashes. 5. Kiliash women. 6. Roller of the Kiliashes. 7, 8. Dagger of the Kiliashes. 9. Painted timber box of the Kiliashes. 10. Aleut Indian (Varesover Island). 11. Aleut Indian (Alaska). 12. Aleut Indian (Alaska). 13. Finger covering of the Aleut women, used when sewing. 14. Corpse receptacle of the Inkalits (Alaska). 15. Child's chair of the Inkalits, made of birch bark.



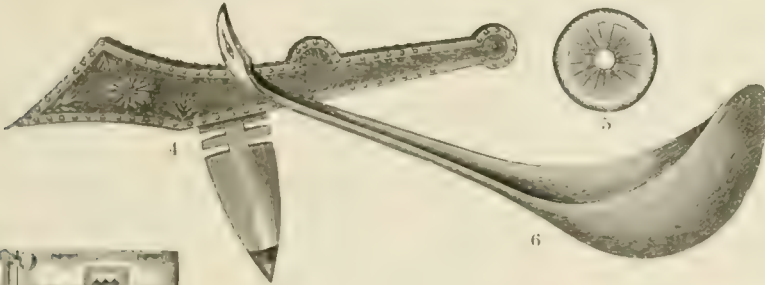
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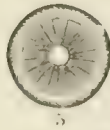
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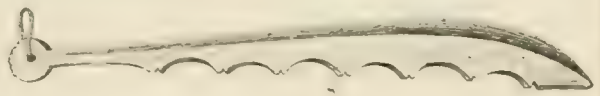


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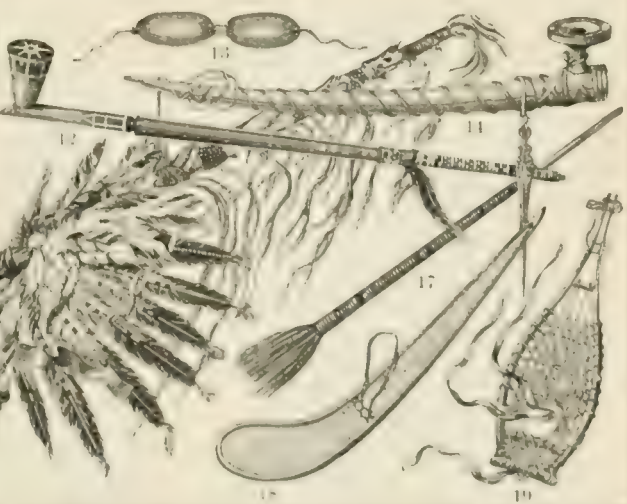


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NORTH AMERICAN. 1. A Dakota warrior. 2. Indian monument, with memorial inscriptions. 3. A Dakota woman and Assiniboin female child. 4. A club of the Dakotas (Mandans). 5. A disk from an Indian mound, used in a game. 6. Spoon of the Kela-hes. 7. Leather bag of the Dakotas. 8. A club of the Dakotas. 9. Flute; 10. Rods—memorials of successful love—at the Dakotas. 11. Double pipe of the Mandans. 12. A pipe of the Mandans. 13. Snow glasses. 14. A pipe of the Inkalits. 15. "Pipe of peace;" 16. A pipe head; 17. A pipe cleaner, of the Dakota nation. 18. Snow shoe of the Inkalits. 19. Snow-shoe of the Dakotas.



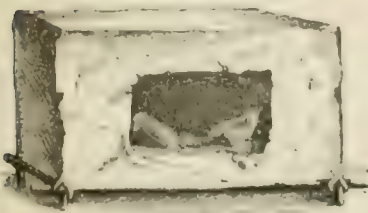
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NORTH AMERICANS.—1. Assiniboin Indians. 2. Minitaree warrior in the costume of the "dog-dance." 3. Magical monument of the Assiniboin. 4. Bed box of the North American Indians. 5. Chief of the Mandans, decorated with the signs of his war achievements. 6. Chief of the Mandans in his festive dress.



NORTH AMERICANS.—Buffalo-dance of the Mandan Indians.



NORTH AMERICAN.—Hut of a Navaho chief.



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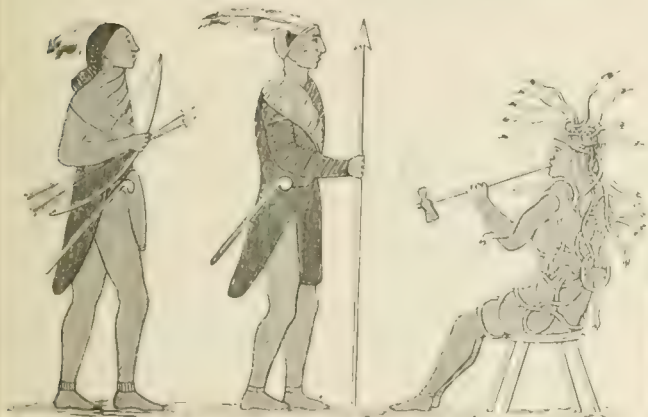
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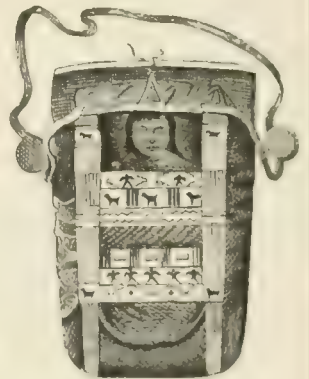
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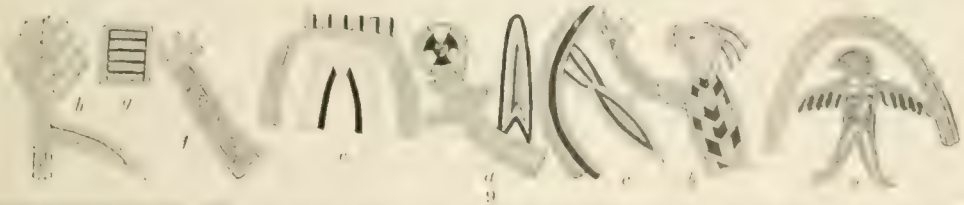
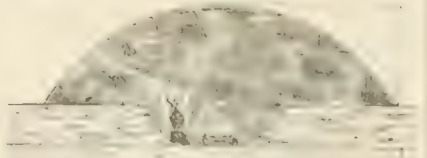
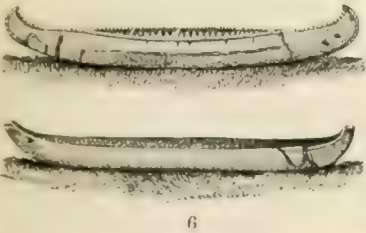
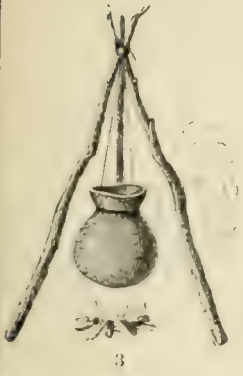


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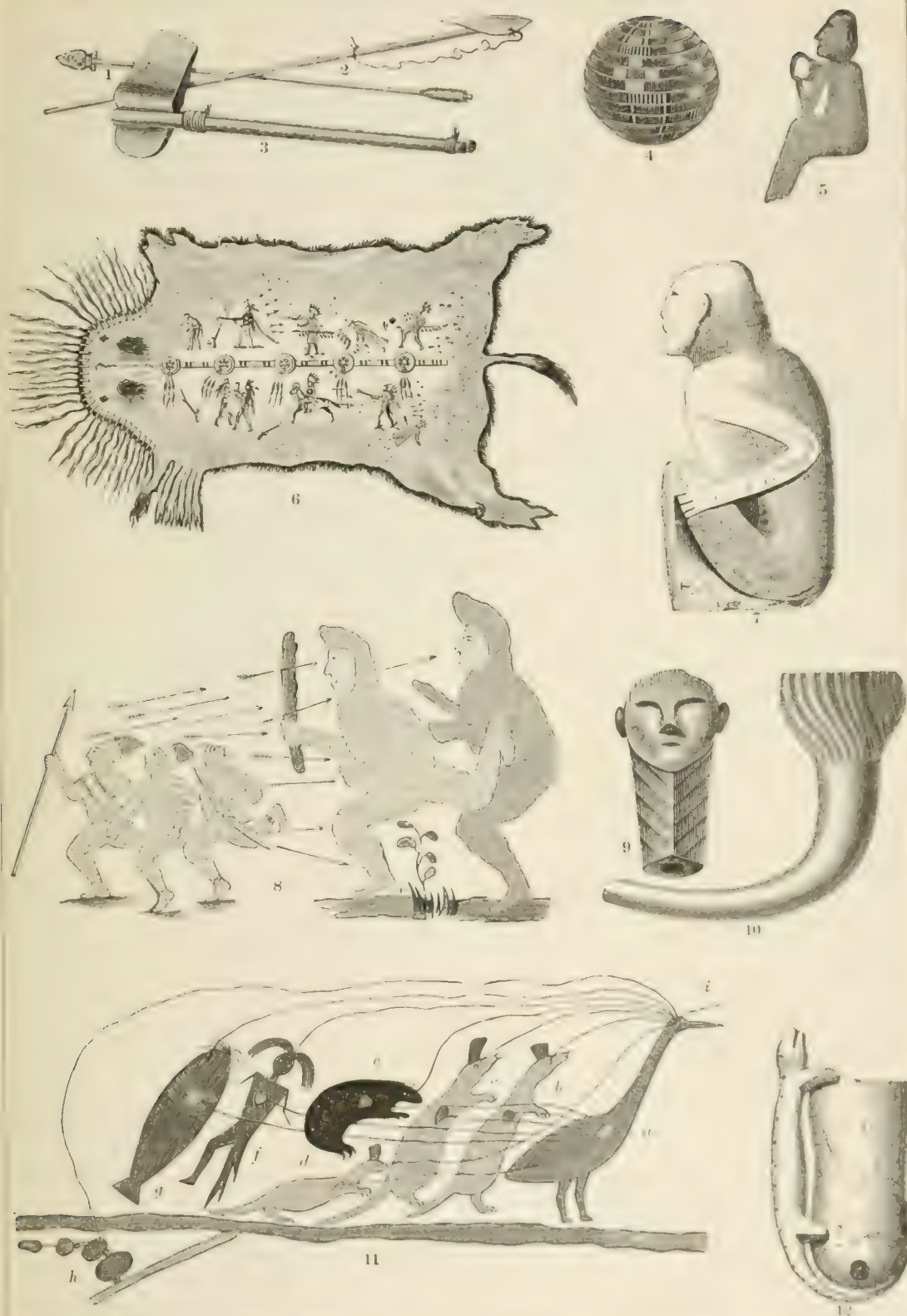


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NORTH AMERICANS. —1. Village (background) and skiffs of the Mandans. 2. Scalp of a man; feathers used as memorials of extraordinary deeds. 3. Navajo Indian. 4. Tribal sign of the Mandans. 5. Painting: Hopewell chieftain receiving the homage of Mohawk warriors. 6. Portable cradle of the North American Indians. 7. Painting: The Metempsychosis. 8. Plan of a North American hut. 9. Wampum-belt and string of beads.



NORTH AMERICANS. —1. Summer tent of a chicham. —2. Scottish fish-drying rack. —3. Fish-drying rack. —4. Small bowl. —5. Village of the Cherokees. —6. North American skiff models. —7. Indian grave in the cemetery near Milwaukee, Wisconsin. —8. Small grave in an old grave mound near Milwaukee, Wisconsin. —9. Hieroglyphics; Mola song, or initiation into the Mola League (see page 226).



NORTH AMERICANS. 1. Arrow. 2. Fish spear. 3. Stone axe. 4. Ball. 5. Idol to be carried about the person, from an Indian grave. 6. Painted buffalo skin (wearing apparatus). 7, 9, 10, 12. Pipe heads, from Indian graves. 8. Painting: Stone giants. 11. Painting: The beginning of a petition.



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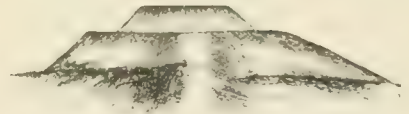
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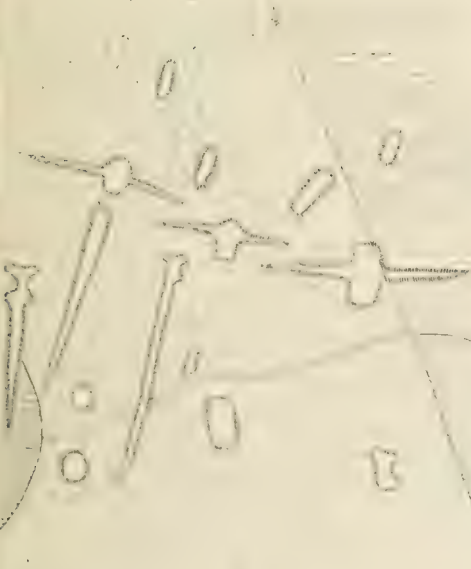
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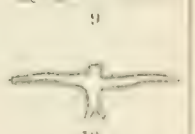
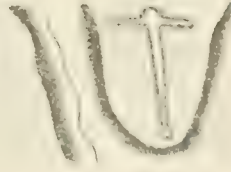
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NORTH AMERICANS. 1. Ancient earthworks near Hopeton, Ohio. 2. Ancient double enclosure on the Wisconsin River. 3. Parallel mounds near Pikeston, Ohio. 4. Specimens of pottery, from mounds in Ohio. 5. Ancient grave mound near Aztalan (vicinity of Milwaukee, Wisconsin). 6. Ancient artificial mound, of a cross-shape, with the so-called "garden beds." 7. Ancient earthworks near Milwaukee, Wisconsin. 8. Ancient artificial mound, of a cross-shape, with the so-called "garden beds." 9. Profile of the garden beds. 10. Ancient hill, eagle shaped.



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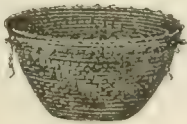
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MEXICANS. 1, 3. California Indians. 2. Necklace. 4. Bow. 5. Arrow. 6. Basket. 7. Dancers of the California Indians. 8, 9. Warriors, from Mexican paintings. 10. Gladiators in America (Santa Cruz).



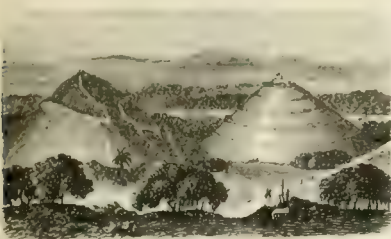
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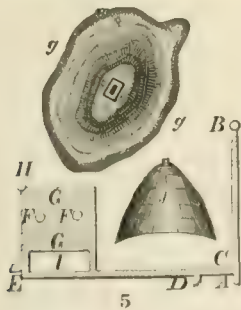
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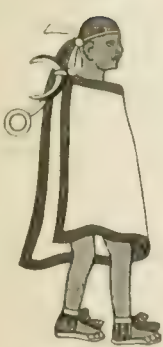
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MEXICANS.—1. Mexicans of Michoacan (after clay figures). 2. Room at Chichen, Mexico. 3. Interior of a room at Uxmal, Mexico. 4. Fortified hill at Xochicalco, Mexico; 5. Plan of the same. 6. Interior of a hut of a native Mexican. 7. Present habitation of the native Mexicans. 8. Inhabitant of Zapotlán (Nayarit). 9, 10. Women of the Huasteca. 11. Montezuma II. in court attire—all from ancient Mexican paintings. 12. Mexican idol.



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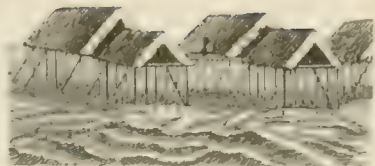


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MEXICANS.—1. Mexican place of sacrifice, near Mitla. 2. Mexican hieroglyphics. 3. Mojaves—man and woman. 4. Mexican temple sculpture. 5. Moquis. 6. Pimo women. 7. S. Idols of the Zapotecs. 9. Arceño Indian.



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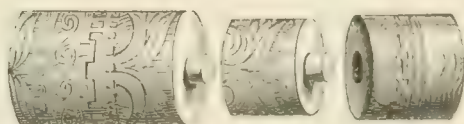
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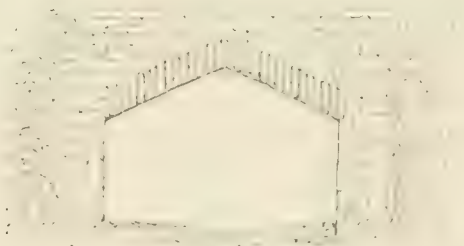
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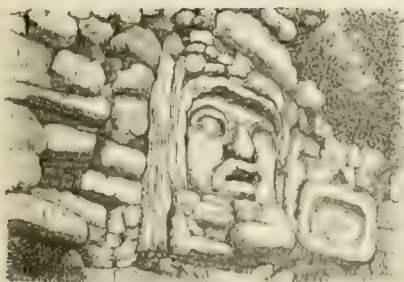
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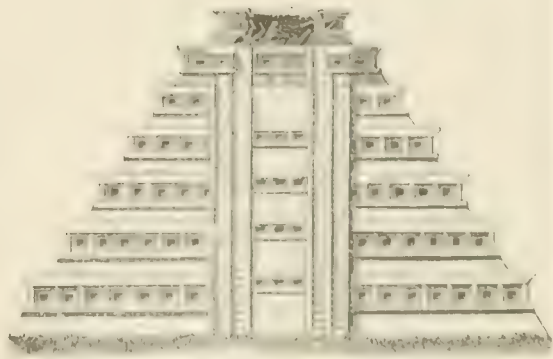
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MEXICANS. 1. House of the Moquis. 2. Houses of the Guari Indians. 3. Rock paintings of Maraca, Nicaragua. 4. Religious stone monument. 5. Sections of a pillar at Tula, Mexico. 6, 7. Stone carvings. 8. Granite vase from Honduras. 9. Cross section of a stone bridge near Terecay, Mexico. 10. Gigantic head at Isamal. 11. Pyramid of Tlapachula, Vera Cruz.



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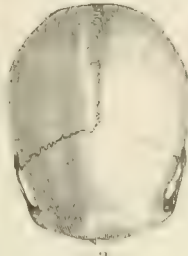
SOUTH AMERICANS.—1. Wapisiano Indian; 2. Wapisiano girl (eleven years old); 3. Wapisiano woman; 4. Interior of a Wapisiano hut. 5. Wapisiano chieftain. 6. Warrau woman. 7. Maxakana. 8. Village of the Caribs. 9. Macusi. 10. Paravilhano; 11. Warrau.



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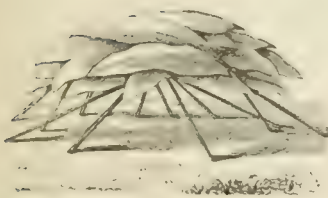
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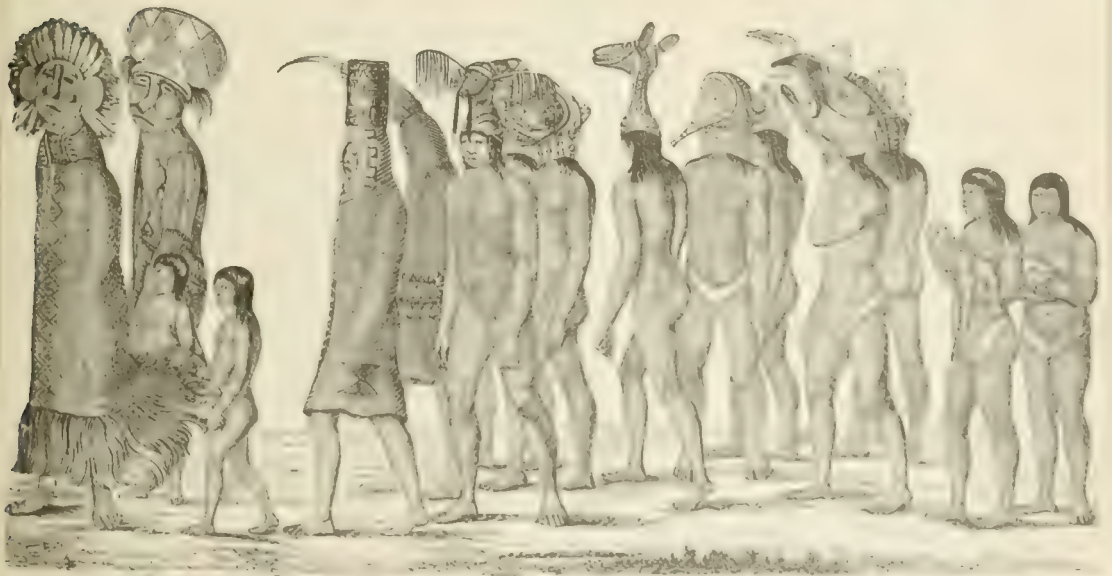
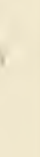
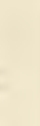
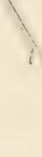
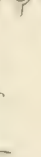
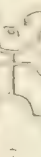
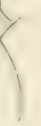
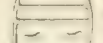
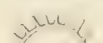
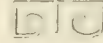
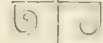
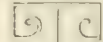
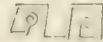
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SOUTH AMERICANS. —1. Macasi. 2-4. Skull of a Guahato Indian. 5. Village of the Yuki. 6. Hut of the Tsimshians. 7. Rock sculptures on the Yapura River, South America. 8. Totem pole of the Tsimshians.



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SOUTH AMERICANS.—1. Miranha girl. 2. Coretu. 3. Mauhe. 4. Miranhas building a boat. 5. Puchlos on a predatory excursion.



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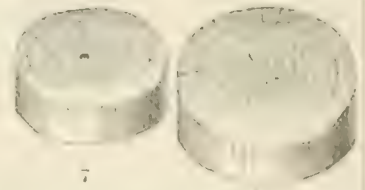
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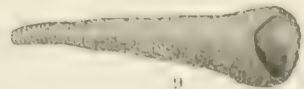
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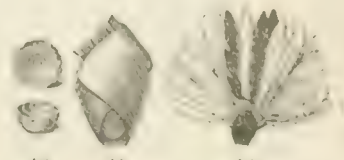
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SOUTH AMERICANS.—1. Mura Indian. 2. Murchison. 3. Murchison. 4. Murchison with a head of an enemy on his spear. 5. Murchison with a head of an enemy on his spear. 6. Botocondos. 7. Diameter and height of an earplug. 8. Of a lipplug of the Botocondos. 9. Speaking trumpet of the Botocondos. 10. Artificial eyes, from Peruvian graves. 11. Ear-covering; 12. Forehead ornament, of the Botocondos.



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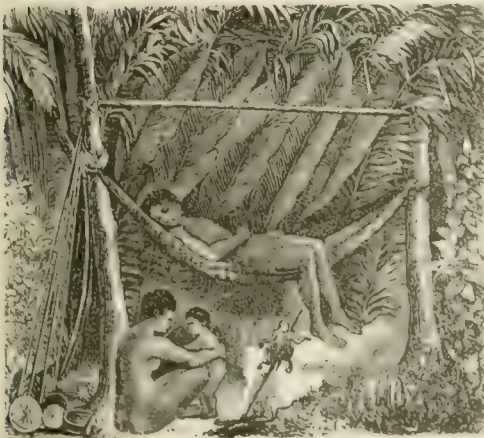
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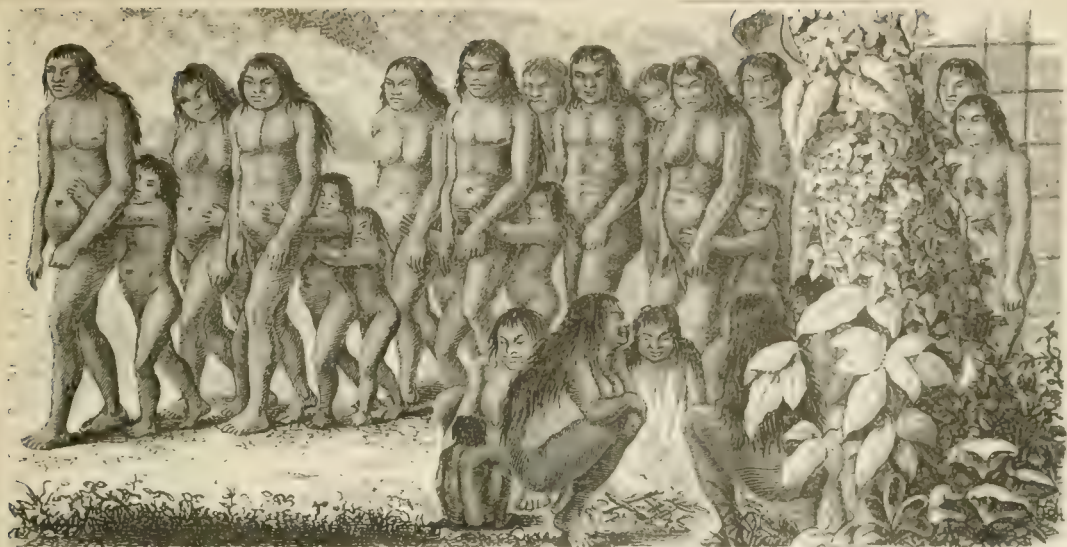


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SOUTH AMERICANS. —1, 2. Botoecudos; 3. Botoecudo youth. 4. Wandering Botoecudo family. 5. Knife of the Botoecudos, worn about the neck. 6. Puri woman. 7. Hammock of the Puris. 8. Bow, or tall bow, of the Botoecudos. 9. Puris in their hut. 10. Cafusa woman, with strange head dress.



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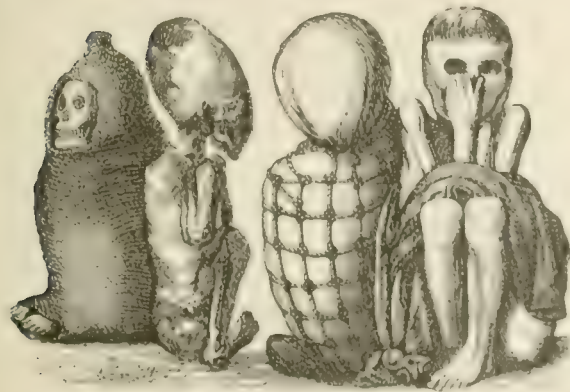
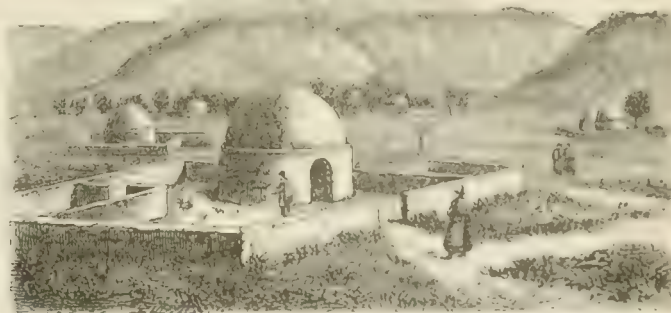


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SOUTH AMERICANS.—1. Dance of the Turi. 2. Dancing-feast of the Camacunas. 3. Musical instrument of the Camacunas. 4. Camacuna woman. 5. Guarajo family.



SOUTH AMERICANS.—1. Toba Indian; in the background the Conchucos, near Arequipa (Peru). 2. Toba Indian. 3. Quichuas (Peru). 4. Quichua habitation, near Cochabamba (Bolivia). 5, 6. Aymara men. 7, 8. Quichua men. 9. Aymaras.



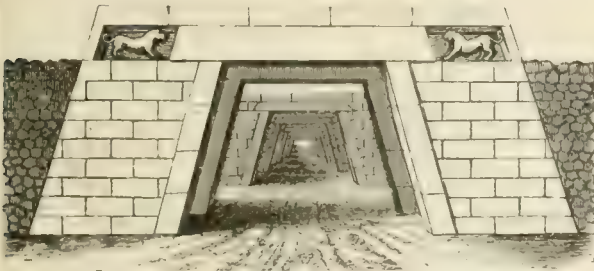
SOUTH AMERICANS.—1. Dance of the Aymaras. 2. Payaguas. 3. Grave of an Aymara child. 4. Moxos Indians. 5. Religious dance of the Moxos.



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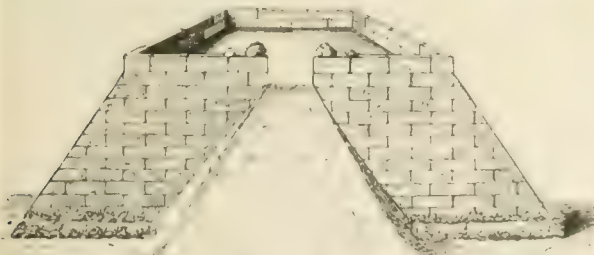
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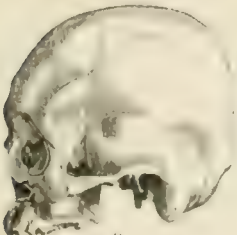
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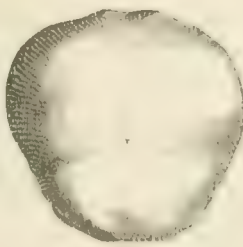
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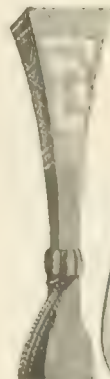
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SOUTH AMERICANS. — 1. Costume of the king (Inca). 2. Temple ruins, in the island of Lake Titicaca. 3. Remains of the Incas' palace. 4. Idol of gold; 5. Ancient vessel, in the shape of a person. 6, 7. Vessels, of the time of the Incas. 8. Ancient place of sacrifice at Huanta (Peru). 9, 10. Skull of an ancient Peruvian. 11, 12. Claws; 13. Sceptre point, of Inca times.



SOUTH AMERICANS. 1. Vessel. 2. Idol of silver. 3. Vessel. 4. Wooden vessel. 5. Silver vessel. 6. Silver vessel. 7. Vessel representing a pluming. 8. Another form of vessel. 9. Stone vessel. 10. Silver vessel. 11. Silver flute. 12. Quipas—all of the old Peruvians. 13. Skull of an Ayma. 14. Piece of masonry from Pumahuasi. 15. Old Peruvian vase. 16. Head of an old Peruvian colossal statue. 17. Peruvian scene. 18. Chief of Arequipa. 19. Peruvian town, of Inca times.

III. THE MONGOLIANS.

THE population of the Asiatic continent, from which Europe is separable neither geographically nor ethnologically, is divided into four principal groups: (1) the Mongolian; (2) the Dravidian; (3) the Arabic-African; (4) the Indo-European.

The first group, which constitutes the chief population of Asia, belongs almost exclusively, and the second, which is the least important, belongs exclusively, to that continent.

These races, with the exception of the Dravidian, have moulded the destiny of the world in the past, and in all probability will shape it in the future. The peoples whom we include under the name of Mongolians have especially influenced the history of mankind, for, like the civilized nations of America, they waged wars not only of defence or retaliation, but also of conquest; and at the same time they exhibited a capacity for founding and maintaining great and despotic governments.

At several points they developed independent and highly important civilizations, as in China, Japan, and Farther India, while other related races show works of civilization less important, but nevertheless worthy of mention. Almost all the peoples belonging here have shown themselves capable of receiving foreign culture, as the Turks, Hungarians, Finns, oftentimes the Chinese, and at present the Japanese. The two latter possess the faculty of receiving such culture without losing their national manners and their originality.

Unity of Type.—The group of peoples whom we class as Mongolians forms an ethnologic division of the human race; that is, a division which is based on the consideration and study of their physical structure, language, character, achievements in religion, art, politics, etc.; in one word, which is based on their psycho-physical growth and condition. Only by a complete investigation of all these things can a truly scientific division of the human race be made.

It is possible that the different peoples of any great division are of different origin; that is, that they independently separated from the original stock of the human race, and by separate migrations reached new homes, the uniformity of which gradually rendered their various characters homogeneous. But the case seems different with the Mongolian race, which is spread over regions so vast and diverse that they could not possibly have produced a uniform influence.

The homogeneity which, as we shall see immediately, is shown by these peoples undoubtedly has its origin from common descent and ancient inheritance; their ancestors seem to have emigrated in common from their original home, and later on to have branched into the separate

tribes of the Mongolian race. All peoples belonging to the latter are fairly separated from those not Mongolians if we draw a line from Cape Cambodia through the Caucasus to the Crimean peninsula, thence to the extreme western point of the lower Volga, thence northward into the White Sea. Outside of these boundaries there are but few peoples belonging to this race—chiefly the Finnish tribes in Northern Europe, and the Hungarians, and the Turks in Asia Minor, the last two of which, according to history, emigrated later. We give to the whole race the usual name of Mongolians, as no one of the geographical names proposed is worthy to supplant it.

Subdivisions.—A race so large has of course subdivisions, and as, in order to draw a boundary-line between the races, their whole existence and growth must be taken into consideration, so must the subdivisions be principally based on linguistic dissimilarities. There result from this two main groups:

The first, with *monosyllabic languages*, the inhabitants of the south-eastern portions of Asia, Farther India, Thibet, and China, whom we embrace under the name of the *Indo-Chinese* peoples.

The second, with *polysyllabic languages*, who again separate into several independent subdivisions, although they all seem to have proceeded from a common centre.

In the polysyllabic group we include, first, those peoples who are customarily called Altaic or Ural-Altaic, and whom we should like to call Uralo-Caspi-Japanic, or more concisely Ural-Japanic peoples, because their territory, with the exception of the European offshoots already mentioned, is pretty accurately bordered by the lines which are drawn from both extremities of the Japanese islands, including Saghalin, to the south-east coast of the Caspian Sea, and north in a curve, through the lower course of the Lena, to the north end of the Ural Mountains (see *Map*). Secondly, the North Asiatic remnants, single tribes of doubtful position, belong here—the Yenisei Ostyaks, the Yukagirs, Tchukchis, and Kamchatkans, whom we unite in one group, although it is by no means certain that they belong to one group; but it is certain that they are closely related to the Ural-Japanic peoples. Thirdly, the peoples of the Caucasus must be mentioned, who are the most independently developed branch of this race.

Physical Characteristics: Stature and Form.—Before we pass to the description of the individual tribes it will be necessary to treat in detail the uniformity which authorizes or rather compels us to include them in one and the same race. It is especially the physical structure which must here be considered, and which we shall describe in general outlines, according to Pallas.

The Mongolian peoples are middle-sized or, especially the female sex, under-sized. This is true of the Ural-Altaic peoples, the Japanese, Chinese, Thibetans, and Indo-Chinese, and also of the Yukagirs and their relations, as our plates show (Ural-Altaic peoples, *pl.* 62, *fig.* 5; *pl.* 63, *figs.* 2, 4, 6,

7, 8; *pl.* 66, *fig.* 2; *pl.* 67, *fig.* 6; *pl.* 68, *figs.* 4, 5; *pl.* 69, *figs.* 4, 11; *pl.* 70, *figs.* 1, 3; *pl.* 71, *figs.* 2, 3; *pl.* 72, *fig.* 7; *pl.* 73, *figs.* 4, 5; *pl.* 74, *fig.* 4; *pl.* 75, *figs.* 2, 8; China, *pl.* 56, *fig.* 5; *pl.* 57, *figs.* 4, 6; Thibet, *pl.* 61, *figs.* 2, 6, 8; Farther India, *pl.* 58, *figs.* 1, 3; *pl.* 60, *fig.* 3; Yukagirs and relations, *pl.* 75, *fig.* 5; *pl.* 76, *fig.* 3; *pl.* 77, *fig.* 6; *pl.* 78, *figs.* 1, 4, 5; *pl.* 79, *figs.* 1, 4, 5). Disproportions in build are shown pretty uniformly in a frequently thick head, short thick neck, the rump a little too long, and lank extremities; the legs are not unfrequently crooked. The arms are also sometimes curved toward the outside, and both hands and feet are usually small. All these peculiarities are shown on our plates:

First, the thick head and short neck of the Ural-Japanic peoples (*pl.* 68, *figs.* 3, 4, 5, Tunguses; *pl.* 69, *figs.* 1, 4, Buriats; *pl.* 70, *fig.* 3, Yakoots; *pl.* 70, *fig.* 1, Calmucks; *pl.* 73, *fig.* 5, Tartars; *pl.* 75, *fig.* 2, Finns; *pl.* 75, *fig.* 8, Ostyaks; among the Thibetans, *pl.* 61, *figs.* 2, 6, 8; Japanese, *pl.* 62, *fig.* 3; *pl.* 63, *figs.* 4, 6, 8; Ainos, *pl.* 66, *fig.* 2; among the Yukagirs and relatives, *pl.* 75, *fig.* 5; *pl.* 76, *figs.* 1, 2; *pl.* 77, *fig.* 6; *pl.* 78, *figs.* 4, 5; *pl.* 79, *figs.* 1, 4, 5).

Secondly, the badly-formed extremities are very marked among them (*pl.* 78, *figs.* 4, 5; *pl.* 79, *figs.* 1, 4, 5; among the Japanese, *pl.* 63, *figs.* 7, 8; the Ainos, *pl.* 66, *figs.* 1, 2; the other Altaic peoples, *pl.* 68, *figs.* 4, 5; *pl.* 69, *fig.* 11; *pl.* 70, *fig.* 1; *pl.* 73, *fig.* 5; *pl.* 75, *fig.* 8; among the Thibetans, *pl.* 61, *figs.* 2, 6, 8). The manner of sitting common to them all, crouching with legs crossed under them (*pl.* 69, *fig.* 11; *pl.* 71, *figs.* 2, 3; *pl.* 73, *fig.* 1), seems to have some connection with their stature.

Color.—Their complexion also shows much likeness. The fundamental color is a very light leather or "wheat" yellow, which often changes into white, even to a sickly colorless hue, but also to darker shades, even to a blackish brown. The dark coloring prevails in the north and south-east of the continent; the central portion of it, as Japan and China, shows a leathery yellow as the prevailing color; toward the west there is a whitish tint of the skin, which, however, is often darkened by the manner of living, uncleanness, etc.

Hair.—The hair is everywhere black, generally straight, rarely frizzled (*pl.* 61, *figs.* 2, 6, 8), mostly coarse and hard, but in China pretty fine. The hair of the beard and body is scant, and only in exceptional cases of great abundance (*pl.* 54, *fig.* 5; *pl.* 56, *fig.* 2; *pl.* 57, *fig.* 8; *pl.* 61, *fig.* 2; *pl.* 66, *figs.* 1, 2, 6; *pl.* 71, *figs.* 2, 3; *pl.* 73, *fig.* 2; *pl.* 75, *fig.* 2); besides, it is generally extracted.

Skull and Features.—The shape of the head of all these peoples shows a uniformity, although this does not appear at first sight. The majority of the Mongolian tribes have brachycephalic forms; the Chinese, Japanese, and the Estonians are mesocephalic; still others, like some Thibetan tribes, have even dolichocephalic shapes (*pl.* 61, *fig.* 5); but the roof of the skull is always square, and even where it passes into the oblong form it is still always square, and it is never round (*pl.* 61, *fig.* 5).

Projecting jawbones are either not found at all or the projection is very small; but the arches project in breadth, making the face very broad, almost rhombic; the forehead, together with a strongly curved roof of the skull, becomes narrow at the top, and the chin is narrower than the cheeks (for instance, *pl.* 66, *fig.* 5; *pl.* 67, *fig.* 4; *pl.* 68, *fig.* 5; *pl.* 74, *fig.* 8; *pl.* 76, *figs.* 1, 2). On this account the upper part of the face is often very broad, but the entire face is round; narrow faces occur only rarely (*pl.* 70, *fig.* 2). The roof of the nose is often pressed in (*pl.* 61, *figs.* 5, 6; *pl.* 69, *figs.* 1, 2); its septum is flat, so that the nose scarcely projects, or only very little, beyond the cheeks and forehead (*pl.* 56, *fig.* 3; *pl.* 57, *fig.* 2; *pl.* 61, *fig.* 6; *pl.* 62, *figs.* 1-4; *pl.* 63, *figs.* 1, 3; *pl.* 70, *fig.* 1; *pl.* 74, *figs.* 6, 7, 8; *pl.* 75, *figs.* 6, 7, 8).

The slanting position of the eyes, of which the inner corner often lies deeper than the outer, is in connection with the low position of the root of the nose. While our illustrations confirm this peculiarity among the different tribes of the race (Ural-Japanic peoples, *pls.* 62, 63; *pl.* 64, *fig.* 9; *pl.* 66, *fig.* 5; *pl.* 67, *fig.* 4; *pl.* 68, *fig.* 3; *pl.* 69, *fig.* 4; *pl.* 70, *figs.* 1, 3; Koryaks, *pl.* 76, *figs.* 1, 2; Kamchatkans, *pl.* 78, *fig.* 5; *pl.* 79, *fig.* 5; Indo-Chinese, *pl.* 55, *fig.* 4; *pl.* 56, *fig.* 5; *pl.* 57, *fig.* 3; etc.), they also show that it is by no means a reliable mark as to the race, for a number of individuals, as well in the east as in the north, and especially in the west, do not have it (*pl.* 54, *figs.* 1, 7; *pl.* 56, *figs.* 1, 3, 4; *pl.* 57, *figs.* 2, 5, 8, 10; *pl.* 61, *figs.* 2, 6, 8; *pl.* 66, *figs.* 1, 2; *pl.* 68, *figs.* 4, 5; *pl.* 70, *fig.* 2; *pl.* 71, *figs.* 2, 3; *pl.* 73, *figs.* 1, 2; *pl.* 75, *fig.* 5; *pl.* 77, *fig.* 6; *pl.* 78, *fig.* 4; *pl.* 79, *fig.* 4; *pl.* 80).

Equally universal is a certain twinkling and pressing together of the small eyes (for example, *pl.* 56, *fig.* 4; *pl.* 57, *figs.* 5, 8; *pl.* 68, *fig.* 4; *pl.* 74, *fig.* 7; *pl.* 76, *figs.* 1, 2; *pl.* 78, *fig.* 5, etc.), which is closely related to the first-mentioned peculiarity. As the cheekbones project broadly, and the bones of the nose lie deep, the skin of the upper eyelid is drawn downward to the nose, thus covering the inner angle of the eye. Plate 1 (*figs.* 1-4) shows four eyes which will serve as an illustration of this peculiarity. In Figure 1, *d a b c* is the upper eyelid, which in *b* already covers a portion of the pupil *a b*, and in *c* is drawn so low down as completely to cover the inner corner. It is seen somewhat more distinctly in Figure 2, still more in Figure 3, while the eye of the Dyak (*fig.* 4) almost fully exposes the corner.

Not unfrequently the fold of skin of the upper eyelid hangs so low as to half cover the lashes on opening the eye. Nevertheless, it is not surprising that this peculiarity should appear different with different individuals, sometimes more or less pronounced, and sometimes wholly absent. Among young people and stout persons it is plainly perceptible; and also among individuals whose nasal frames are very much compressed, as the Japanese, etc.; but it is less perceptible where the bones are more elevated, as is the case among the Indo-Chinese peoples (*pl.* 61, *figs.* 2, 5, 6, 8). In consequence of this construction of the eye the tears in weeping

frequently flow through the nose. The pupil is everywhere black or at least very dark.

Of the other peculiarities of the face it must be remarked that it often looks inflated or swollen, partly on account of the formation of the cheek-bones, partly from a tendency to fatness peculiar to this race. Several such swollen faces, which are especially common to young people and children, are shown by our plates (for instance, *pl.* 54, *fig.* 7; *pl.* 55, *fig.* 3; *pl.* 57, *fig.* 2; *pl.* 61, *figs.* 2, 6, 8; *pl.* 62, *figs.* 1-5; *pl.* 63, *figs.* 1, 3, 4, 6; *pl.* 66, *fig.* 5; *pl.* 67, *figs.* 4, 6; *pl.* 68, *figs.* 4, 5; *pl.* 69, *figs.* 1, 4; *pl.* 70, *fig.* 1; *pl.* 74, *figs.* 6, 7, 8; *pl.* 75, *figs.* 6, 7, 8; *pls.* 78, 79). They are common to almost all tribes of this race. The lips are almost invariably full and fleshy, the chin round and rather small, the teeth good and durable.

The peoples of Farther India vary in many respects from this type, and still more so those of the Caucasus and numerous individuals among the Turks, Hungarians, and Finns. It prevails more extensively in the north and east, than in the extreme south and west, of the region—is more pronounced among the uncultivated tribes and individuals than among the cultivated. The physical constitution of the Caucasians makes it hazardous to class them with the Mongolian race. Some scientists unite them, with the Indo-Germanic peoples, the Semites, and the Basques, into another race, and still others represent them as a distinct branch of the human species, having no relation to other races. Our opinion distinctly is that the ethnologic position of the peoples of the Caucasus is still an open question. Our reasons for placing them in one class with the Mongolians are the following:

First: The Mongolian type shows great change toward the west, becoming more European; and this is in accordance with our supposition that the types of races are produced by the gradual influence of their natural surroundings. Thus we find the Finnish natives of Europe frequently of European type, with blue eyes and brown, blond, or red hair. Again, a modification of the Mongolian type has taken place with the Hungarians and Turks (*pl.* 72, *figs.* 1, 2), who, by their large stature, muscular powers, condition of hair (*pl.* 72, *fig.* 2; *pl.* 75, *fig.* 2), shape of face and skull, formation of the nose, position of the eyes, etc., can scarcely be distinguished from the Indo-Germanic nations, particularly the Asiatic types of them, as the Armenians, Kurds, etc. (comp. *pl.* 73, *figs.* 6, 9).

But the European type is by no means the only one prevailing amongst these nations: the old Mongolian traits not unfrequently occur. Thus among the Hungarians individuals are often found who unite with a small figure and scant beard a thick neck, a round head with a low, retreating forehead, flattened occiput, slanting eyes, short flat nose, and thick lips. Some have attempted to find the cause of this modification of the type by interminglings with Europeans; and we are far from denying either the interminglings or their influence. But in what the latter consists has neither been so thoroughly nor so

widely investigated as to furnish a basis for scientific conclusions. It is impossible to explain all these changes by referring them to intermingling. It would be strange indeed if therein the Indo-European type had so completely gained the ascendancy, and it would be especially remarkable in the Caucasus, where at least as much contact took place with the Mongolian as with the Indo-Germanic peoples.

Nations where there is no mixture—as many of the wild Turcomans in the inhospitable steppes around the Caspian Sea—have the same non-Mongolian features (*pl.* 72, *fig.* 5). Likewise the Nogais Turks between the Caspian and the Sea of Azov, as well as the Tartars of the Crimea, exhibit frequently quite European countenances (*pl.* 72, *fig.* 8; *pl.* 73, *fig.* 3; *pl.* 74, *fig.* 1). We might assume that the intermixture of Indo-Germanic blood was so great that in process of time the Mongolian traits were absorbed; but so extensive a fusion throughout all classes has never taken place here. This theory of blood-mixture does not solve the difficulty, but merely sets it back. How, from what sources, has the Indo-European type formed itself? Surely not by mixture. And that the European was not the original type of mankind (according to the development theory) has long been an acknowledged fact (*comp.* p. 29).

If different influences could ennoble the type in this case, why not also in the case of the Mongolian race? For it is by no means so unchangeably fixed as has often been assumed. Our plates prove this when we glance at the inhabitants of Farther India and the Ainos; and among the Mongolian peoples in a narrower sense many differences of type are to be seen. Therefore, the conclusion is justified that in spite of their European type the people of the Caucasus are to be considered as belonging to the Mongolian race. In the earliest times, subsequent to the separation from the original centre of mankind, they belonged, together with the Mongolians, to a single centre of population. Having left this at an early date, and being confined to their mountains and the surrounding regions, they gradually took upon themselves their present characteristics. They have long lived in their mountain-valleys secluded and independent, as their so numerous and widely different tongues plainly prove.

Second: As further evidence that they belong to the Mongolian race, many physical peculiarities may be adduced which they share in common with it. The disproportion between the buttocks and the limbs, already mentioned, is seen also in the Tcherkesses, whose thighs are often somewhat short and whose feet are very small; and, inasmuch as the handles of their weapons are surprisingly small, so must their hands be—like the real Mongolian. Latham, the well-known English ethnologist, calls the Caucasians “modified Mongolians,” and Pallas likewise found many Mongolian features among them, which he deemed referable to the intermixture of Nogais blood.

The type of the Crimean Tartars (*pl.* 73, *fig.* 3) appears again in the Caucasus, while many of the inhabitants of these mountains possess a

full European, and frequently very handsome, exterior. They present an elegant and yet herculean build—the hips, however, remaining small—rather long not round faces, prominent noses, large and mostly brown eyes, brown but also blond and red hair, with much hair growing on the body (*pl.* 80, *figs.* 1-3, 7-12).

Language.—We are next met by a question of the highest importance: In what relationship do the languages of the Caucasians stand to each other? Are they related to those of the other peoples of Mongolian stock which were referred to above? We saw that the similarity of the American languages in general did not depend so much upon similarity of *roots* as upon the fact that the grammatical forms resembled each other in characteristic points, and that this similarity, more or less widespread, was sufficient to indicate the original relationship of all these tribes (p. 211).

If we now turn to the principal forms of speech of the different Mongolian peoples, we do not find precisely that which we found among the Americans, but a state of affairs much akin to it, which might render an original relationship and unity of speech by no means impossible. If we do not find the same forms of speech everywhere, we do find in all idioms belonging here only such forms as may or must have developed themselves from a common foundation; which is the case all the world over when we take the factor of development into consideration.

Not only do the more perfected of these languages use the same elements with greater strength than the less perfected, but we also have transitions from the latter to the former, which show clearly the process of gradual refinement of the tongues. Therefore, the original root of the Mongolian tongues throws much light upon the history of the development of speech; it shows us a whole scale of tongues, which, starting from the most simple possible form of human speech (*i. e.*, the monosyllabic), progresses through more and more perfect formations to a point (in the Finnish) which does not essentially differ from the height of development as found in the Indo-Germanic.

There are three points which this mother-speech teaches clearly, and although they are well known everywhere, we must at least allude to them on account of their great importance:

First, nations who have attained considerable culture, either by themselves or from foreign sources, exhibit a highly developed speech, in which the forms of thought attain a fitting expression. This is the case among the Mongolians with the Chinese and the Finns, among the Americans with the Mexicans and Quichuas, with the Semites of the Arabic-African races, etc.

Secondly, no ethnologic race shows only undeveloped tongues: with almost all we find true formal elements of speech, as among the Mongolians in Chinese and Finnish, and so at least approximately in the Mexican and in the Semitic speeches, etc. The Malayan and Tagala belong, at least in part, here.

Thirdly, if a certain number of tongues remain rude and undeveloped, it does not follow that all the nearly-related tongues remain upon the same level of development, as the highly-developed Finnish proves.

Thus we have, first, the monosyllabic tongues of China, Farther India, and Thibet, which last two form the transition to the polysyllabic of the Ural-Japanese. All the idioms in this category make no distinction between verb, substantive, and adjective, but the same word may appear as either. The words have no outward form of difference; and what is a very remarkable fact—and indeed unique—is, that the words appearing in the spoken language are often pure roots, so that the original form of sound which the linguistic genius of this people created has been applied in the language just as they formed it, without noteworthy changes, and so remains. Unintentional changes in the *sounds* of the words have gradually crept in, but these need not concern us here.

All these elements of speech are monosyllabic, as originally the roots of all tongues were either monosyllabic or reduplicating; and it appears that the psycho-physical foundation upon which the linguistic genius of this people rested insisted upon and long clung to this monosyllabism; for only in later times were groups of roots formed by collocation into polysyllabic words, in which the original formative elements had lost their meaning. These linguistic elements of conventional and modified meaning usually follow the radical, either as independent words or as loosely-attached suffixes, of which a number sometimes may come after a word. The use of prefixes is also not rare. They are much employed in the languages of Farther India.

By means of this binding together of single words these languages supply to a degree the lack of inflections—not perfectly, however, for unity and plurality, sex, person, case, moods, etc. are all wanting. They express these conceptions by independent words, often leaving it to the speaker to think out and add the various relations. That this is a very rough procedure is plain, and yet the Chinese adopts it just as do the other tongues. The means by which these idioms devoid of inflection are enabled to render the expression of thought is by the relative position of the words.

The Chinese language has this well marked, its rule being to place the attribute before the subject, the subject before the predicate, and the predicate before the object. This order is also observed by the tongues of Farther India, and they, as well as the Chinese, make use of certain particles, inasmuch as the position of the word is not enough to give a clear idea of the various relations, the particles rendering the doubtful meaning quite clear. By their aid the attribute, object, etc. can be determined. There are also particles which express the relations of the predicate. Frequently a certain manner of speaking decides in cases which would otherwise remain doubtful in meaning.

In spite of all this, these tongues—even the Chinese—do not stand high. The best that the latter can do is to give a correct exposition of

common logical relations; further than this the language expresses nothing: individual ideas are presented in an isolated form, and therefore vaguely; the defining power, as we possess it in the formation of our words, is wanting with them or added by means of independent words. The same root, according to circumstances, may mean "great," "greatness," "to make great," or "to be great." Of course the tongue of the Chinese, with its fixed position of the word, is a much more compact one than ours (the German). Their thoughts are more abstract, their ideas not so keen, less positive, so much with them coming into one word which we separate with sharper comprehension. The best that the Chinese mind possesses comes to them from without, through their thoughts into their speech, the speech itself giving only the most commonplace ideas. The languages of Farther India are somewhat less abstract, but on that very account less logical.

The language of Thibet shows the same use of monosyllabism, but at the same time an effort toward a firmer connection of the words; it is rich in inseparable suffixes or suffixed words, for from the fact that all attributes (for which signs of cases, articles, plurals, etc. serve) follow the substantive, even dependent ones, such as signs of cases, plurals, etc., the substantive becomes often very long. The same is true of the verbal roots and their affixes.

Prefixes also are not rare. If the attribute stands before, it will frequently receive a particle, which is the sign of the genitive case; thus, for our "the good man" it would be "good—relating to—man," or "the man of goodness." The subject in the case of verbs of doing has frequently an instrumental suffix, so that the sentence "the king does this" would be expressed in the Thibetan, "this—king-by—do. . . ." The position of the words here is also quite constant, the verbal root having always the last place. The different conceptions are much more sharply divided into substantives, adjectives, and verbs.

In studying the polysyllabic Mongolian tongues the Japanese will first demand our attention. Here also there is no inflection: sex, plurality, declension, and conjugation are formed by independent words, which mostly follow the leading idea, or by suffixes blend with it. The first vowel sound of these suffixes often assimilates to the vowel sound of the stem-word, so that there are traces of a kind of vocal harmony. Some of these suffixes deserve closer attention. They have a predicate suffix *si* (Hoffmann, *Japansche Sprachleer*) and various attribute suffixes, which are employed for the more precise defining of the subject. So also the genitive suffix *ga*, which, where there is an accented predicate, is applied to the (apparent) subject.

If it be asked, "¹*Kane* ²*wa* ³*âri*-⁴*mâsu*-⁵*ka*?"—Is there money at hand? (literally, ¹Money, ²what belongs to, ³to be present, ⁴to be at hand, ⁵interrogative word), the answer will be, "¹*Kane* ²*ga* *âri*-*mâsu*"—Money is at hand (literally, ¹money ²of, genitive sign); therefore "the being-here of money" (Hoffmann). The *wa* of the first example is an isolating par-

ticle; it marks out the word immediately preceding it as important, and is attached mostly to the subject, sometimes to the object, sometimes to the predicate. The object has also its own suffix, which serves as the accusative sign in the grammars. The subject stands (if it does not attract one of these particles) without other definition than its position, for neither the Japanese nor any other Mongolian tongue has nominative suffixes.

The position of words is of the highest importance: the predicate follows the subject, and all the more definitive expressions stand before the word to be defined; thus, the attribute (genitive, adjective) is placed before the word to which it belongs, the adverb and all objects before the verb being understood as its limiting terms. Thus we have two apparently opposite principles of phraseology: independent limiting ideas precede, and dependent ones (suffixes, particles) follow.

This is of the more importance because by this means the language distinguishes very sharply between ideas which are expressed in the words and the relations of these ideas to each other. The subject serves as a particular definition to the predicate only where it has the genitive suffix, not where it is isolated by *wa* or stands without something to denote it. All these denoting signs are very properly wanting to the subject, for it refers to nothing, while all else in the sentence refers back to it. The predicate group, no matter how extended, refers back to the subject.

In the language of courtesy there is even a sort of agreement (congruence), so that where there is a subject to be honored a prefix with an honorable meaning comes before the verb. Still more exactly is this relation expressed by the predicate-suffix *si*, which means "to be," *esse*. It is not rare in Japanese to find prefixes: they were originally independent attributive words, but have gradually been so closely attracted by the chief idea to which they belong that they have lost their independent quality.

Thus, the Japanese is seen to be a speech which, though differing widely from our own, is a vehicle for keen and consecutive thinking. Granting that this is of ethnologic importance, we shall have to look at it more closely for another reason: we find in it the proof that the celebrated Ainos, who are now generally treated as a separate race, are closely related to the Japanese. Their language is built upon the same model as the Japanese (according to Pfizmayer's works), and many of the suffixes, as well of substantives as of verbs, are either quite alike or have differed only by change in sound.

To these similar suffixes belong also such as give its peculiar quality to the Japanese, as the isolating *wa*, which has the same usage in the tongue of the Ainos; *e. g.* ¹*gû*-²*ani* ³*tschoschtscha*-⁴*wa* ⁵*rai*-*ke*—²With ¹bow ³to shoot ⁴what concerns ⁵to kill (Pfizmayer)—*i. e.* A shot from the bow kills. Not only suffixes, but frequently the words themselves, are similar or closely related; of course not merely borrowed ones, but numerous words which plainly could not be borrowed, and which in both tongues are treated as entirely independent. Besides, the Japanese has

both with regard to epochs and locality a number of different dialects. Thus the dialect of Yeddo cannot be understood by the people of Nagasaki, and educated persons at large can only understand each other in the written language.

Also among the Ainos there are different dialects, for the inhabitants of Yesso, the Kurile Islands, Saghalin, of the southern end of Kamchatka, the Gilyaks (Santanes), and the Natkis of the continent, all of whom belong to the Ainos, have each their peculiar dialect. The island Saghalin is inhabited by several races of Ainos with different dialects.

The languages of Central Asia, commonly called the Altaic or Ural-Altaic languages, resemble the Japanese so much that much in them is the same in root; as, *e. g.*, in Manchoo the isolating *wa* (*ba*) is likewise seen, but has not yet become a true form-element, and in regard to syntax is not yet so highly developed as in the Japanese. Other points, again, have been here more richly developed; for instance, the vocal harmony, which was only alluded to in the Japanese. The vowels of the Altaic tongues are divided into three classes—rough, medium, and soft: the stem-vowel always determines, by its own nature, the nature of the vowels which appear in the suffixes; therefore the sound of the suffixes is much varied. This rule is characteristic of all these tongues; yet it does not universally prevail, and in some of the dialects of the most highly developed of these idioms it is almost abandoned.

Compared with the Japanese, we note another great advance—namely, that in all these tongues verbal and nominal stems are different. Not that the noun (substantive or adjective) can be directly declined; but, while in Japanese the particles supplying the place of inflection frequently accord with the particles of the substantive denoting the case, it is not so here; both are separated as the formative syllables for developed nominal and verbal stems are distinguished.

Thus we see the development of a perfect declension with number and case quite equal to our own in the more highly developed dialects, and a conjugation that metamorphoses the substantive root by means of subordinate unchangeable suffixes. These latter are derived from the ordinary pronouns like the possessive suffixes which are met with everywhere in these tongues, and many of the case suffixes are recognized as demonstrative pronouns; thus in *principle* the choice of suffixes is rigidly indicated. With this is connected the great development of the personal pronoun, which in the Japanese was unimportant, but here presents a number of forms, and in some cases differs in its inflections from the noun. We often recognize true inflection in these tongues, and in some dialects (Finnish) a real comparative and superlative can be formed.

Other parallelisms of all these tongues are the negative verbs and different methods of denoting near and remote objects, as well as the whole formation of the sentence. The subject leads as principal idea, and we have again that double principle already referred to: independent limiting ideas (attribute, which in the Eastern tongues often appears only in the

genitive form, object, adverb) stand before the verb to be limited, dependent definitions follow.

All these languages have only suffixes or postpositions; prefixes are not used, or at least are very rare. The suffixes are numerous and developed in a manifold manner: there are predicate suffixes (formed out of the pronouns and personals, *e. g.* in the Samoied language *sawa-m*—good I; I am good), possessive and objective suffixes. The number of cases, owing to these suffixes, is great. These suffixes—which are allowable in many of the tongues now under consideration, while in most they are necessities—were the cause of the name of “agglutinating” or “adding” being given to this group of languages (see p. 52).

We must content ourselves with this rough sketch of the Altaic tongues, in spite of much that might be more closely considered. The steps in their development going from east to west are particularly worthy of attention. Several of the Western—for example, the Finnish—can hardly be regarded in an unprejudiced manner as other than inflecting tongues. The circumstance is noteworthy that similarity of root does not prevail in any of these languages which are distantly separated from each other; the numerals, for instance, are often quite different.

The little that we know of the tongues of the scattered North Asiatic tribes justifies us in regarding them as related to the Mongolian (Yenisei Ostyak, according to Castren; Yukagir, according to Schiefner); yet they stand farther from the Altaic idioms than the Japanese. We find the vowel-harmony at least suggested; there are the same syntax, the negative verb, the predicate suffixes, and much else to correspond; but here we have prefixing also—*e. g.* *ab-up*, “my father;” *uk-up*, “your father;” also *dideleng*, “I work,” *kugeleng*, “you work,” *dujaleng*, “he works” (Yenisei Ostyak, Castren); and in the Yenisei Ostyak the verb is constructed asymmetrically, and likewise there are traces of a kind of inflectional gender and an agreement between subject and predicate which are highly remarkable.

Finally, we can judge of the Caucasian languages. First, let us say that the chief divisions of the population of the Caucasus, the inhabitants of Daghestan, the Circassians, those of the upper mountain-valleys, those of Georgia and Lazistan, speak related tongues. An exact comparison of the accessible material (see Uslar, Schiefner, Rosen, etc.) shows this, for we find everywhere the same structure of language with its frequently surprising features; we often find the same suffixes and particles used in corresponding application; finally, we find in all these tongues much lexical matter in common. Such extensive identity in the meaning and development of words cannot be owing to the process of borrowing. Of course this relationship often conceals itself in anomalous and more or less complex forms; but an exact comparative study will disclose positive relations between the different tongues, as well as a system of transitions of sounds by means of which these relations are to be recognized.

In the second place, the structure of the Caucasian idioms shows nothing that is inconsistent with the Mongolian tongues. The system of sounds is similar; the harmony of the vowels reappears in the Caucasian; the negative verb, the affixed particles, the predicate suffixes, and also the Mongolian rules for the position of the word, although the latter are not found everywhere in the Caucasus, but only in the least cultivated dialects. In the others this feature is altered in many ways; but here also similar foundations may be easily recognized. It is also noteworthy how in the different tongues different parts are developed; no one is just like another. This arose from their history, as they have mostly developed themselves in isolated localities.

That we find numerous prefixes in them will not surprise us, since this is not unknown among the Mongolian idioms; but it is remarkable that many of the tongues of the Caucasus, northerly and southerly, possess a sort of gender which shows itself in the adjective, in the (interrogative) pronoun, and still more in the verb, whose first sound can be altered to masculine or feminine in the two first persons. This is a lately-developed feature, wanting in some of the tongues. Critically examined, the verb is devoid of inflections, and frequently what in our tongue is the subject appears in an oblique case—ablative, etc.

The letters denoting the gender were originally prefixes, which later united with the root; and in some tongues a personal pronoun is inserted between them and the root, as in the American languages; in others this affix of gender partakes of the meaning of the personal pronoun (at least of the first and second), and thus corresponds entirely with the peculiar first sound of the Yenisei Ostyak, which distinguishes the different persons.

It is worthy of notice also that many suffixes and pronouns seem to agree as to sound in the Caucasian and Mongolian tongues; and also that a number of Mongolian suffixes (*e. g.* Turkish) are adopted by the Caucasian idioms with the greatest ease.

These facts appear to establish a relationship between the Caucasian and Mongolian stocks, more distant indeed than that between the Altaic and the Yukagir, but about equal to that between the Altaic tongues and those of Farther India.

A. THE MONOSYLLABIC MONGOLIANS.

These include the inhabitants of China, Farther India, and Thibet. We begin at the most south-easterly point.

I. THE PEOPLES OF FARTHER INDIA.

We are justified in separating these from the Thibetans and Chinese as an independent division, on account of the nature of their language.

Division.—The races which belong to this division are, according to Lassen (see *Map*)—

1. The *Burmese* (or Mran-má, as they style themselves), on both sides of the Irawadi, to whom the inhabitants of Tenasserim, as well as of Rakhaing (Aracan), belong, and some tribes which dwell on the south-east slopes of the Himalayas and in the mountainous lands between the Himalayas and the Irawadi. These are, first, the *Khyens* in the Yuma Mountains and on the Khyen-Dwen, as well as on the delta of the Irawadi. To them belong the *Karens*, who in earlier times (Marco Polo) were settled in South China, and at present, besides in the mountains mentioned, live on the Irawadi delta, in which latter district they are neighbors to the nearly-related *Zabaings*. To the races of the north-west mountains belong the *Kukis*; north-westerly from these the *Katcharis* (Metscha, Dhimal, Bodo); still farther west, reaching almost to the westerly bend of the Brahmapootra, the *Khyis* and *Garos*; and at the extreme west, in Lower Assam and South Bootan, the *Kotschas*, of whom a part have adopted the Bengalese tongue. North-easterly from the Kukis the *Nagas* are settled, who are mountain-races, tribes with different names as far as Assam; and northerly from them the *Singphos*, to whom are joined in Assam south-easterly the *Abors* and the *Kolitas*, north-easterly the *Mischmis*, the *Miris*, and the *Akas*.

2. The *Mon*, an independent branch of the inhabitants of Farther India, who inhabit Pegu, and are called *Talaings* by the Burmese.

3. The *Khomas* or *Khames*, the various races living in Cambodia. Perhaps they are related to the *Mois*, wild mountain-tribes in Dong-Nai (South-west Cochin-China) and in the north-west of Tonquin, as also to the *Tsiampas* or *Laus* in South-east Anam, and to the *Quan-tos*, which latter, dwelling in the border mountains between China and Anam, believe themselves the original people of Tonquin.

4. The *Thai*, who occupy the interior of the peninsula and include first the Siamese, the *Thai* in a restricted sense, or the *Shan* of the Burmese; secondly, the *Laos* people on the upper Me-Kong, the *Ahamtis* at the headwaters of the Irawadi, and the *Ahoms*, the former rulers of Assam. The *Thai* are divided into different races—the *Thai-noi*, *Thai-jai*, *Moi-Thai*, etc.; the *Pc-i* (Lok-Thai), *Pa-pe*, etc. Here belong also the *Khasias* or *Khyes* (Scott), westerly from the Katscharis.

5. The *Anamites*, or inhabitants of Anam (Chinese Ngan-nan), Tonquin, and Cochin-China.

We have already seen how the Karens migrated from South China. The idea is, then, a very probable one (Lassen) that the *Miao-tse*, the population of China formed by those Chinese migrating later, and which, breaking up into different tribes, inhabit the mountains of various parts of China, are more closely related to the people of Farther India. Another such transition race are the *Lolos*, as the population of South China does not differ greatly from the people now under consideration.

Our illustrations, which are taken from Garnier's fine work, *Voyage d'Exploration dans l'Indo-Chine*, show types of the different races, and will make these transitions clear. To the South Laos race belongs the

mandarin (*pl.* 56, *fig.* 2) from Kemarat on the Me-Kong (16° N. lat.), likewise the young Laos (*pl.* 56, *fig.* 4) from Bassac (15° N. lat.), while Figure 3, showing a Laos of the uncivilized mountain *Khmú* race from the district of Pak-beng (20° N. lat.), forms the transition to the North Laos on Plate 56 (*figs.* 1, 6). These northern Laos are called black—properly speaking, “the Laos with black bodies”—because they tattoo themselves with very elegant devices, mostly from the navel downward, but often also over the whole body (*pl.* 56, *fig.* 6). The Burmese practise this also: all the men are tattooed over and over from the navel to the knee with dark figures representing lions, wild boars, tigers, or birds and demons. Many of the mountain-races have the same ornaments. Marco Polo found in the westerly Yun-Nan striped devices on the thighs of the men. The Khyen, especially the women, tattoo their faces. The wild race of the Lemet (*pl.* 56, *fig.* 5) belong to the northern Laos; they inhabit the mountains north-west from Me-Kong, between 20° and 21° N. lat. To the Thai-jai belongs the Thai (*pl.* 55, *fig.* 3); the Kong woman (*pl.* 81, *fig.* 12) to a race of the Pa-pe, living from 21° northward; while the fire women (*pl.* 60, *fig.* 3, left) are Pa-is, and likewise the group on Plate 58 (*fig.* 3, in the background on the hill). The two women on the same plate at the right are Lolos, also the mountaineer (22° east from Me-Kong) from Yun-Nan (*pl.* 61, *fig.* 7); and a representative of a related race, north from the lake of Ta-Lee in the same south-west province of China, is shown in the Man-tse, Plate 55 (*fig.* 4). Man-tsés are also seen on Plate 58 (*fig.* 1, the three standing at the left on the hill).

The people represented on Plate 56 (*fig.* 6) belong also to these non-Chinese races. The men with skin caps and the women with immense turbans are Lissus; the three standing women who follow are Man-tse women; then we have a man and his wife of the Y-kia race—all mountain-folk from the West Yun-Nan. Here belong also the Minkia women, fishwives from the lake of Ta-Lee (*pl.* 58, *fig.* 3, at the left, close and front), and behind them the “Chinese women” with high caps, as well as Mohammedan soldiers at the right, in front, on the same plate.

Physical Characteristics: Stature and Form.—If we examine the corporal build of all these figures we find that it is not large. The Anamites are remarkable for smallness, and are mostly thickset and square-built (*pl.* 58, *fig.* 1), but sometimes slender and finely proportioned (*pl.* 56, *fig.* 6), in spite of the disproportion between buttocks and limbs (not rare here) which we alluded to above (p. 237) as common among Mongolians. The muscular system, although well developed, is lax. All show a tendency to grow fat.

Color and Features.—The skin is soft and shining, of leather-yellow color (*pl.* 54, *fig.* 7; *pl.* 56, *figs.* 3, 4), and darker, even dark brown (*pl.* 55, *figs.* 3, 4; *pl.* 56, *fig.* 2), often tending to red. The brow is well developed, broad, often somewhat arched forward; the face round and broad, with very prominent cheeks; the eyes, without being actually

small, are narrow, as if pressed down from above (*pl. 56, fig. 4*), often squinting; the nose small (*pl. 56, fig. 3; pl. 81, fig. 12*), straight or arched, fuller below; the lips thick. The ears stand out, and are characterized by large flaps, which are often pierced in order to carry ornaments (*pl. 54, fig. 1; pl. 56, figs. 1, 3*).

Hair.—The hair is always black, mostly uncurled, but sometimes wavy, and in some cases growing in locks (*pl. 56, fig. 3*); the latest French investigators affirm that it is never straight, while earlier accounts state the contrary. It is worn either in a turban or bound on top of the head (*pl. 54, figs. 1, 5; pl. 56, fig. 6*), or short, and at times shorn off, so as to make a kind of crown on the head (*pl. 54, figs. 1, 5; pl. 55, fig. 5; pl. 56, figs. 1, 4, 5*). It is either allowed to fly free or is bound up in a bunch (*pl. 58, fig. 1*, to the right). Many forms of ornamental hats and caps are to be seen (*pl. 54, fig. 5; pl. 56, fig. 6; pl. 58, fig. 1; pl. 60, fig. 3*), as, *e. g.*, the women in the last-named plate on the right, who wear the hair in large skin cases. The hair of the body is not plentiful, but more so than with the Malaysians; the beard also on the lips and chin is not always wanting (*pl. 54, fig. 5; pl. 56, fig. 1; pl. 58, fig. 1*, at the right; *pl. 61, fig. 7*), but it is seldom luxuriant (*pl. 54, fig. 5; pl. 56, fig. 2*). There is a Siamese family whose members for three generations have had long silky hair all over their bodies (*pl. 54, fig. 4*). The resemblance of these people to the Malaysian races has often been alluded to, but it is by no means striking, as a glance at our illustration shows.

Costume.—We cannot speak of all the costumes which we have depicted. The men of the more uncivilized tribes wear only an apron both at work and in the house (*pl. 56, fig. 6*), and even in the temples (*pl. 55, fig. 5*), in which the pilgrims are wont to spend many days as if in their own homes. The ordinary costume of the poorer Burmese consists of a long piece of stuff (cotton or silk) about the hips, and a coat (or long caftan) with sleeves, held in by means of a sash (*pl. 54, figs. 3, 5; pl. 55, fig. 5; pl. 58, figs. 1, 3*). With many of the mountain-people the caftan is of skin. Trousers for both sexes or gaiter-like leg-coverings are common (*pl. 58, figs. 1, 3; pl. 60, fig. 3*).

The striking female costumes of the Pa-is and Pa-pe (*pl. 60, fig. 3*) resemble the German peasant dress in their gay colors, but for the most part dark-colored stuffs are preferred by these nations. This is particularly the case among the Anamites, who wear almost exclusively silk dresses, which are coarser or finer according to rank. Plate 55 (*fig. 2*) shows portraits of Siamese actresses in royal dress. The long fingernails, which are protected by silver cases, are a symbol of nobility, and indicate that the person is exempt from the necessity of manual labor. Various sorts of turbans (*pl. 54, fig. 7*), black for the men and blue for the women, distinguish rank. Both sexes wear wide trousers, several over-garments with long sleeves (*pl. 54, fig. 6*), and longer or shorter jackets, like those of the Laos women in Plate 56 (*fig. 6*), and frequently over all this long black silk mantles. White is the

color of mourning; yellow is the sacred color, and is therefore worn only by princes and priests.

Architecture: Temples and Palaces.—The temples and palaces are most magnificent and imposing, but an independent style has not yet been developed, the Indian style predominating with its rich ornamentation (*pl.* 54, *fig.* 2). Other buildings show Chinese influence, as the palace of Amarapoora (*pl.* 54, *fig.* 3) and the great pagoda of Semao on the upper Me-Kong (*pl.* 60, *fig.* 1, Garnier), whose monolithic door-jambs are guarded by ivory dogs, the symbols of friendship. The smaller temples, like the private houses, are built of bamboo, are circular in shape, and rest on wooden piles: the interior of one of these is seen on Plate 55 (*fig.* 5, Garnier).

Dwellings.—The houses in the cities show nothing remarkable. They often rest upon large stakes, the stables being below. This is seen on Plate 56 (*fig.* 7, Garnier)—the farm of a wealthy Laos, where the buildings are erected of rattan and bamboo, and are inaccessible at night after the ladder is drawn up. At the right in the picture stands a little rice-house; at the left, in the background, the dwelling of a poor man. The wagon in the foreground and the animals in the yard give an idea of the husbandry; in the garden are planted bananas, fan and arcea palms, betel, pepper, cocoa, etc. Rice, which is the staple food, is generally cultivated even where agriculture is neglected. The mountain-races eat almost all kinds of animal food, but the civilized nations have many religious laws concerning their diet. In these dwellings the general fixtures of the house are simple, while great luxury frequently prevails in the cities. The use of mats for sleeping and resting is universal (*pl.* 55, *fig.* 5).

Commerce and Trade, Art and Literature.—Commerce is mostly in the hands of foreigners; the trades are not well advanced, and in art we may mention the music of the Siamese. The Laos, as well as the Siamese, Assamites, and Burmese, have a kind of national literature—poems of mythological and historical character, romances, dramas, and lyric pieces. The computation of time is derived from Hither India; in Ava the Brahmans revise the calendar. Writing is quite common throughout Aracan.

Intellectual Faculties.—The intellectual activity of these people is not great, though the Anamites are most noteworthy. They are honest, gentle, and harmless, but cruel and fierce in their wars, as well as cowardly, and without any feeling of true honor. The inhabitants of the larger cities are described in still more unfavorable terms. The wild mountain-races are on a higher level, being peaceful and simple, even if somewhat rough.

The Anamites possess greater mental power, which shows itself in the excessive animation of the countenance, and are more joyous, friendly, and complacent, than the Siamese with their dull expression. They are quicker in comprehension. They are also more particular about their exterior than the latter; they take pleasure in ornamenting themselves, though with little regard for cleanliness. Thus they have identified

themselves with the nearest centre of culture, China. Their dress is the old Chinese; the speech of the learned, the characters of writing, their social usages, and even their religion, are Chinese.

Family Life.—The family life of all these peoples is pure, although polygamy prevails and the unmarried live quite without restraint. Yet they are not dissolute in this particular unless under the influence of liquor. Prostitution of unmarried daughters by their fathers exists in Anam, and of wives by their husbands in Aracan frequently, and is not considered dishonorable. Yet on the whole the position of the women is not bad. Entail of property goes by the mother's side. Children have much tenderness shown them, although infanticide both before and after birth is not rare in Anam. Old age is respected.

Government.—The government is entirely despotic. The king is believed to have descended from the gods, to whom the higher classes stand nearer than the common people; therefore the king alone is permitted to wear yellow, the sacred color of the sun. This gives rise to the servility which is displayed toward him, to the excessive ceremony of the court, the strict divisions of society—which are particularly marked in Burmah—and to the polite usage which requires a common man to use certain expressions and to avoid others when addressing a superior. It also accounts for the submission of the lower classes to every act of cruelty of their betters, which has undoubtedly had a most unfavorable influence upon the development of the national character. Plate 54 (*fig. 5*) shows the mandarins of an Anamite village clad in the dark-blue official garb.

Slavery.—Slaves are very numerous, and are of two classes—debtor slaves, who are held in bondage until their debts are paid; and perpetual slaves, who are principally members of the mountain-tribes captured in war. Slavery among the Burmese is mild, but among the Siamese more severe. There is also a caste consisting of the unclean and of outcasts, who include temple slaves or prisoners of war presented to the temple, of lepers and incurables who are under control of a special functionary, and of undertakers, executioners, etc.

Soldiery and Arms.—The soldiery, although numerous, is not very efficient: the weapons are poor and awkward, and cavalry has but recently been introduced (*pl. 54, fig. 3*). Mohammedan soldiers from Yun-Nan are seen on Plate 58 (*fig. 3*, the figures at the right); the saw-like weapon, the helmet-like cap of the officer standing on the right, as well as the triple-toothed lance and the collar-like metal coat-of-mail of the warrior near him, are particularly remarkable.

In Siam only the king and highest nobility may ride upon the elephant, which is the most generally employed and useful domestic animal (*pl. 56, fig. 7*). Even in war the use of the elephant is confined to the class named, though horses are growing into vogue. The elephants are protected in battle by weapon-proof saddles. The saddle shown in Plate 54 (*fig. 8*) now hangs in a pagoda; it is of wood, superbly carved and inlaid with metal in a most artistic manner. White elephants are

esteemed holy, because they are regarded as the incarnation of former rulers. They are of a clear grayish-white color, tending to yellow or red, and are very scarce, being found only in high mountain-lands. After being caught the elephant is housed in a palatial building, massive gold rings are placed on its tusks, and it has a large retinue to serve it. Even the king never rides on it; but when there is need the keeper chastises it, and when it is led out to exercise the driver occupies a seat on its neck (*pl.* 54, *fig.* 3).

Religion.—The Buddhist religion prevails almost everywhere—in Cochin China and Anam, however, only among the lower classes, while the higher adhere to the teachings of Confucius. Plate 55 (*fig.* 5) represents the Buddhist feast of the new moon, which lasts three days. The town and country people, as well as itinerant Burmese merchants with their slaves, are assembled in the pagoda of Nong-Kay. As they live entirely in the pagoda during the feast, they are provided with sleeping-mats and provisions, and have, besides, many presents, such as eatables for the bonzes and ornaments for the temple. A young bonze sits on the altar and reads the holy writings; opposite, in the higher lodge which is provided with curtains, the old bonzes also sit praying.

Temples are numerous everywhere, but in Anam and Burmah the priests are little esteemed and insignificant in number, while in Siam every one at some period of his life is a priest (*talapoin*). Moreover, religion has very little influence upon the people's minds. The Islam faith is now extending in South China and on the west coast of Farther India. The wild races have preserved their old religion, which consisted in the worship of the sky as the chief god, of the sun and moon as his servants and inferior divinities, and of protecting spirits and evil demons, but which often degenerated into fetichism. Their priests are both magicians and doctors, for illness is believed to be witchcraft. An extended system of philosophy prevails with them, as it does everywhere in Farther India. The dead are either buried or burned with much solemnity, attended with sacrifices, or they are treated according to the Buddhist manner.

The introduction of Brahman culture into Siam and Aracan dates from the first or second century B. C., and simultaneously the Indian princes subjected the wild tribes to a regular form of government. Buddhism, and with it the Pali and the Indian scriptures, was introduced from Ceylon much later, at first, about 640 A. D., to Aracan and the Laos district, whence it spread throughout all Farther India. About 200 A. D. the Chinese pushed their victorious campaigns as far as Hon-Kin, introducing their own culture with them. The native kingdoms of Burmah and Cambodia were at the height of their power toward the end of the eleventh century; the Mongolian invasions of the thirteenth century had no lasting influence, but in the fourteenth century the whole East as far as Cambodia and Siam was tributary to China. We need not follow the changes of the various rulers. England has had possessions

there since 1824, and France since 1863, close to the feeble kingdoms of Burmah, Siam, and Anam.

2. THE CHINESE.

We have already spoken of the gradual transformation of the bodily type of the people of Farther India into the Chinese (p. 236). When the Chinese emigrated from the West to their present home they drove out of that locality many of the tribes already settled there, among them the Thibetan people; others were absorbed by the immigrants, and many remnants of tribes remained unmolested. Both the latter facts are explained by the close relationship of the new and old inhabitants. The different districts of the kingdom are now divided by physical and linguistic dissimilarity, as might be expected from its great increase in size and from the independent development of its separate parts.

Physical Characteristics: Stature and Color.—The people of the north are whiter and larger than those of the south, where the complexion is often dark brown, while in the north, and particularly in the case of those not exposed (such as women), the complexion is almost European in whiteness. The bodily build is good, of middle size and over, and larger than with the Indo-Chinese. The peculiar arrest in the growth of the feet (generally small) which the Chinese accomplish by artificial means is well known (*pl.* 1, *fig.* 5).

Features.—Very prominent cheek-bones, and consequently almost lozenge-shaped faces, small noses, prominent, small, often oblique eyes, always dark and mostly black, and thick lips, are characteristic features of the Chinese; yet the northerners and southerners (the latter being on the whole the more handsome) differ widely from each other (*comp. pl.* 57, *figs.* 2, 5, with *figs.* 8, 10, Garnier).

Hair.—The hair is black, straight, often long (*pl.* 57, *fig.* 2), the beard generally scant (*pl.* 57, *fig.* 1; *pl.* 60, *fig.* 6; *pl.* 61, *fig.* 1, etc.), yet also sometimes rather heavy; that is, in the south (*pl.* 57, *fig.* 10, and particularly *fig.* 8), also in the far east, on the Liu-Kiu Islands (*pl.* 60, *fig.* 4), whose almost independent populace is a mixed one of Chinese and Japanese. The hair of the head is worn (especially by girls) either freely flowing, or short shorn except a tuft on the crown remaining free (*pl.* 60, *fig.* 6), or bound into a knot (*pl.* 57, *figs.* 6, 7).

Costume.—The costume consists of a shirt, wide trousers, and over all a long caftan, with wide sleeves, bound in at the waist (*pl.* 60, *figs.* 4, 6). The fan is always present; it hangs from the belt like the tobacco-box (*pl.* 60, *fig.* 6). Costume of course differs according to rank. Our illustrations (*pl.* 57) of the different grades from the emperor (*figs.* 1, 7) to the night-watchman (*fig.* 6) give a clear idea of this. The well-known Chinese hat likewise takes several forms (*pl.* 57, *figs.* 1, 5, 7, 8, 10; *pl.* 60, *figs.* 2, 4); and the shoes are often of the most exquisite workmanship. Colors have their meaning also: white is the color for mourning (*pl.* 60, *fig.* 2); yellow, the holy one; blue and violet, peculiar to man's apparel.

Architecture.—The house and city architecture of the Chinese is well known; as an example of the comfortable and even luxurious elegance of the richer classes compare Plate 59 (*figs.* 1, 2). Figure 3 shows the sleeping apartment of a noble Manchoo family.

Food and Stimulants.—In matters of the table also the most unbounded luxury often prevails, but the great majority of the people live principally upon rice, with the addition of cabbage, pork, and fish. They eat from flat plates with chopsticks, articles used for thousands of years. The main stimulants are tobacco and opium.

Agriculture.—With the immense over-population of the kingdom agriculture is most carefully pursued, but the Chinese have also a great love for floriculture. Tea, rice, and silk are the principal and original products of the country.

Literature.—We shall not speak of the trades and arts, which mostly stand on a high level, nor of the abundant literature of the Chinese: let us only mention that besides the dialects of the people there exists a common speech of the learned. There are also two forms of the written language—the ancient highly-condensed and strict form, and a free modern one. In the former the ancient sacred books are written, as well as modern works on morals, science, history, etc.; and in the latter the numerous romances and dramas which form the daily literature. Poetry has a peculiar form of expression. Dramas, both light and serious, compose the favorite recreations of the people, but the actors are much bound to custom, which seems to require an unnatural overacting in tragic rôles. The dress of the actors is overdone and often grotesque (*pl.* 57, *fig.* 4). In literature the earnest, sober, and entirely practical spirit of the Chinese is seen. They have clear minds, but no imagination, the lack of which directs their thoughts only to the practical and useful.

Family Life.—In spite of the dissoluteness of the Chinese, their family life is pure. Every man has one wife in indissoluble marriage—that is, one principal wife, but he may possess a number of other wives, whose children are legitimate. The parents are devoted to the children, who obey them most implicitly and show them the greatest respect. Home-rearing and schools protect the children in moral and educational respects. Great stress is laid upon the acquiring of a fine and courteous deportment, of which the Chinese most properly think very highly, and feel themselves therein superior to Europeans. Marriages, births, and birthdays are celebrated with merrymakings.

Government.—The state, according to an oft-repeated Chinese saying, is regarded as a large family, the emperor being the father or head of it, upon whom the duty consequently devolves of caring for everything, great and small. The emperor appoints his successors. He stands nearer the gods than other men; therefore he receives divine honors, wears the color of the sun, and is styled “son of heaven;” and he alone sacrifices to heaven and to the highest gods. There are numerous civic bodies, and the officials are countless, to which latter a large but not always effective

police force belongs, whose duties extend into the night hours. Special night-watchmen (*pl.* 57, *fig.* 6) are found in all quarters of the cities, whose duty it is to arrest all who may be upon the street at a late hour, as well as to strike the watches every two hours upon a bell or drum. The populace is divided into classes—nobility, officials and scholars, farmers, merchants, and ships' people, and finally artisans and artists. Executioners, actors, servants, etc. are not included in the *bourgeoisie*.

Warfare and Weapons.—Their powers in war are by no means remarkable. In olden times the Chinese used various siege engines which remind us of those employed by the Greeks and Romans (*pl.* 57, *fig.* 9; *pl.* 60, *fig.* 5); and the equipment of the warriors was different from that of the present. Some characteristic figures of the olden time are shown on Plate 61 (*fig.* 1). The shield splendidly painted with a kind of Gorgon's head deserves particular attention; also the heavy war-vestments and bow and arrows of the warrior on the left, and the sabre of the middle figure. Other weapons, defensive and offensive, are shown on Plate 58, as helmets (*figs.* 4, 5), a bow-case (*fig.* 6), battle-axes (*figs.* 7, 9, 11), a mace (*fig.* 8), swords (*figs.* 13, 14), etc.

Religion.—In their religion the clear sense of the Chinese shows itself. They honor heaven, Tian (Tien), as the supreme being and foundation of all things, father of all people, regarding it as abstract spiritual perfection, but also taking part in the affairs of the world. By its side are the earth, countless demons, protecting spirits, genii, and the souls of the dead, which are mighty according to their rank when on earth. They offer sacrifices and prayers to the gods, the head of each house for his own family, and the emperor for the whole land. There are no priests or temples, but many superstitions.

It was Kong-fu-tse (Confucius) who in the sixth century B. C. built upon these old and fundamentally pure ideas his system of a pantheistic and purely practical philosophy of life; and his teachings flourish still with all prominent Chinamen. We find also the teachings of Lao-tse, a contemporary of Confucius, whose supreme being is the Tao, a kind of abstract idea of reason; and Buddhism, the religion of the Fo, which has points in common with the Tao, and is much spread among the lower classes; the imperial family belongs to the sect of the Fo.

The religion of the Chinese is best expressed by Neumann's words: "Prophets have never appeared in China. All its ideas come from men and are calculated for temporal welfare. The Chinese were the utilitarians of the ancient world. What they do not understand with their natural reason has no existence for them and is to them a mockery." But Christianity and Islamism have taken a firm hold.

Funeral Ceremonies.—Burials are very solemn. Great luxury is displayed in the coffins, and even the poorest man strives to provide one during his lifetime. The coffins are often kept for years in the house. The dead are first laid out in the best room of the house, where relatives and friends bring incense and candles as last gifts.

The corpse is taken to the burial-place in solemn procession; in the van large pictures are carried which represent the valuable possessions of the deceased as well as mythical subjects, and which are burnt at the grave. Then follow the mourning music and persons carrying lamps, flags, censers, and then, before or behind the coffin, the mourners clothed in white, with white caps and white boots; other mourners and wagons with female relatives follow the coffin. All present appear much cast down, and loud weeping is a part of the proceedings (*pl.* 60, *fig.* 2).

Professional mourners are often hired for the purpose of adding to the lamentations. The coffin itself, provided with a double roof of violet silk, has in our illustration the form of a ship. The name of the departed adorns it, and it is always carried on a bier. Desert parts of the land are utilized for the burial-grounds, which are public. Every family has a grave in common, and efforts are made to bring back the bodies of those dying abroad. The memorials are of different kinds. Cypress trees overshadow the graves (*pl.* 58, *fig.* 2; *pl.* 60, *fig.* 2).

In every dwelling there is a room for the dead, where their portraits hang, and where once in the year the whole family assembles for a sort of mortuary feast. The principal feasts of the living are New Year and the Feast of Lanterns, the former taking place with much merrymaking and interchange of presents in the first month of the new year; the latter, as the feast of the full moon, in the middle of the first month, with illuminations, fireworks, etc.

3. THE THIBETANS.

Under this name we group the people living southward from the Karakorum Mountains to the Himalayas and throughout Thibet. They extend partly to Hither India, for the inhabitants of Nepal, Sikkim, and Bootan belong to them, and they have relations in China also; for the Sefans (Thou-fan, thence the name Thibet) are of their race, which, formerly settled as far as the upper branches of the Yang-tse-Kiang and Hoang-Ho, now dwell between the Yang-tse-Kiang and Tschu-Kiang (Ya-Long), and southward to Yun-Nan. The two Sefan women (*pl.* 58, *fig.* 1, sitting figures at the right) are from the right bank of the Yang-tse-Kiang, from the district of Ta-Lee, and we see from these illustrations how the Thibetan races in outward appearance come very close to the races of Farther India. The transition is a very gradual one.

Division and Location.—The chief tribes of Thibet proper are the following: The *Bhutias*, *Lhots*, the common name of the people from Bootan to Ladakh; east from Bootan live the wild *Lhekhas*; in Sikkim the *Lepchas* (Lapka, Leptscha, *pl.* 61, *fig.* 4), who were originally called Rong, and have absorbed the northern *Khambas* during the last two hundred years; in the same locality and in East Nepal are the *Limbus* and the *Kinatis*; in North Nepal, the *Marmis*—the original inhabitants of Nepal are the comparatively highly civilized *Nepalis*; in West Nepal, the *Gurungs*, the *Magars*, the *Koklis*, and also the inhabitants of *Khoenatcar*, *Spiti*, and *Ladakh*.

although these latter, like many of the others, have an intermixture of Indian blood.

Physical Characteristics.—We have already spoken (p. 236) of the physical type of this people. We may add that with small bodies the muscles of the arms, and particularly of the legs and the breast, in breadth and prominence are highly developed on account of their living in the mountains. Indeed, many of these races (*c. g.* the Murmis, the Gurungs) are so accustomed to mountain-air that they are unwilling to make any long stay below a height of six thousand feet.

Their hands and feet are surprisingly small (*pl. 61, fig. 8*); heads and faces round, the latter broad, with a very broad and flat bridge of the nose, which lies in a straight line with the eyes or even deeper (*pl. 61, fig. 6*). The lips are thick, the chin small, the hair mostly worn free, long, black, and bushy or waving, sometimes in locks (*pl. 61, figs. 2, 6, 8*). There is almost no beard, and such a one as the lama of Ladakh wears (*pl. 61, fig. 2*) is a great rarity. The color of the skin varies from light yellow to tolerably dark brown.

Costume.—The costume of the Sefans (*pl. 58, fig. 1, Garnier*) is like that of the surrounding Indo-Chinese races or of the high mountain-people (*pl. 61, figs. 2, 3, 4, 6, 8*). The knife in the belt (*pl. 61, fig. 6*), the boots made of felt, and the curious felt caps of the lamas (*pl. 61, figs. 2, 3*), as well as the hats and hoods of straw, are characteristic. In Ladakh the women as well as the men often wear the hair in queues, which are sometimes twisted into hoops or circles standing off from the head like the halo which painters give to the saints (*pl. 61, fig. 4*). For weapons, besides the broad knife, they have bows and arrows, the latter sometimes poisoned.

Architecture.—In the high mountains the houses are of stone and very plain, sometimes also of twisted cane; in Sikkim they stand on piles. In the architecture of the Thibetan cities there are unmistakable marks of Chinese influence, but in their temples and religious edifices an Indian influence is apparent.

The wilder tribes interest us more, because they manifest the original character of the Thibetan people. The greater number are employed in agriculture (barley) and raising stock (sheep, goats, yaks, horses). They make fire by friction or by means of a peculiar kind of bellows; bamboo sticks serve for vessels. Tobacco is much smoked.

Social Life.—The women live very unrestrainedly before marriage, and their laxity is not considered dishonorable; the marriage tie is strict, in some places polygamous, in others polyandrous, several brothers having a wife in common, who is the property of the eldest. The woman is bought, and several of the tribes named intermarry. Inheritance goes on the woman's side.

Burials.—They burn their dead, or bury them on the summits of the mountains; they have priests and magicians, and believe in demons, of which one is credited with great power and receives special worship, but

they have no temples nor idols. Animals and fruits are brought for sacrifice.

Religion.—The more cultivated tribes are in a slight degree Brahmans, but mostly Buddhists, and it is known that Buddhism has its principal seat in Thibet, and its temporo-spiritual head, the Dalai-Lama, resides at Lassa. There are countless priests, unmarried and always living together in monasteries. The culture of the various Thibetan states (which are mostly independent or only nominally dependent on China) and their rather rich literature have been formed by the teachers of Buddhism, though the lamas themselves are ignorant men. In character this people, on the whole, are good-natured, friendly, honest, and true; the wilder tribes are very warlike and brave. They have good natural gifts

B. THE POLYSYLLABIC MONGOLIANS.

I. THE URAL-JAPANESE PEOPLES.

Classification.—The Ural-Japanese peoples are divided into several groups:

1. The *Japanese*, with the nearly-related *Liu-Kiu* Islanders, the *Ainos*, and the *Corcans*. To the Ainos belong the *Santans* or *Gilyaks*, and the *Natkis* on the lower Amoor, whither they probably emigrated from the west coast of the island of Saghalin, which is also occupied by Gilyaks and Natkis.

2. According to Castren, the *Tunguses*, whose proper home is Manchouria, whence many of their tribes emigrated to East Siberia, and whence the Manchooks in 1644 A. D. invaded China. The latter are mentioned in Chinese annals in earlier centuries as a very rude people, but under other names (Sutchin, eleventh century B. C.; the closely-related Ylen, Yliu, third century A. D.; the Khitan, sixth century A. D.). They are a highly-gifted and warlike race, and have now entirely adopted Chinese manners. Plate 59 (*fig. 3*) gives an idea of their domestic comfort: the elevated platform covered with mats serves as a sleeping-place for the whole family, and the room is warmed by a small stove (on our plate in the middle of the rear wall before the platform), in which are burning coals, and from which the heated air is conveyed in pipes under the floor of the room.

Among the other tribes of Tunguses may be mentioned the Sea-Tunguses and the Lamutes (*lamu*, the sea), on the Sea of Okhotsk; also the Tchupogirs on the middle Yenisei; others dwell in the extreme north, on the Khatanga River. From the lands bordering on the Amoor they progressed as far as the island of Saghalin, whose north end is in their possession; for the Orotskos belong, as their name and far more their exterior and customs prove, to the Tunguses, as also do the Smerenkurs, who closely resemble them, and who occupy the north-west of the island (*pl. 67, fig. 6*). Plate 68 (*figs. 2, 3*) shows Tunguses from Eastern Siberia; Plate 68 (*figs. 4, 5*), from Central Siberia.

Many of the Tunguses are nomadic (*pl. 68, figs. 4, 5*), and the Man-

choos call them *Orotschon*—"possessors of reindeer." But most of them are hunters, brave, skilful, of joyous temperament, fond of ornament, and often tattooed on their faces and hands. Their costume may be seen on the plates referred to, also on Plate 68 (figs. 6-9). Figure 8 is a breast ornament, Figure 7 a collar. People of this race who have settled down are rare, but now, owing to Russian influences, their settlements are becoming more numerous.

3. The *Mongolians* in a more restricted sense, with four divisions: (1) the East Mongolians, in Mongolia, whose northern tribes are the *Khalka Mongolians*, and southern the *Schara Mongolians*; (2) the *Buriats* around the Lake of Baikal; and (3) the *Calmuks*, who call themselves *Oeloet* (the "separated ones") or "the four united" (Durban-Oirad), for they consist of four races. Coming originally from Dzungaria (Dzungar is the name of one of the four races), they settled on the west border of the Gobi region and westward from the Lake of Baikal; some, too, wandered into the steppes between the Volga and Ural, where they have been Russian subjects since 1630 A. D. (4) This division includes the pastoral races of the *Hazâres*, *Timuris*, *Teimanis*, etc. in North Afghanistan, which are also comprised in the name *Aimak* ("hordes"). To this day a few of these Mongolian-looking tribes, who are bigoted Mohammedans, speak Mongolian dialects.

4. The *Turkish* race, often also called the Tartars. The name of Turks is older (about 600 A. D. in the Chinese annals) than that of Tartars, which only appears about 880 A. D. In the earlier centuries these races formed the powerful kingdom of Hiongnu, north-westerly from China to the Selenga River, from the ruins of which the kingdom of the Tu-kiu (Turks) was afterward developed. It was destroyed in 745 A. D. by the *Kā-otsche*, as the Chinese call them, a branch of the *Uigurs*. These latter, first mentioned in the Chinese annals in 478 A. D., are a Turkish, but a highly and anciently civilized people; their nearest relatives are the *Uzbecks*, *Seljuks*, and *Osmans*.

To the Turkish races belong also the *Yakoots*, settled from the lower Lena to the upper Kolyma; the *Barabinszes*, between the Obi and the Irtysh; the *Kirgheez*, who call themselves *Cossacks* ("riders"), and who are divided into four divisions—the *Burutes* (south-east from Thian-Shan), the *large* (between Thian-Shan and the Lake of Balkash), the *medium* (westerly from Balkash), and the *small* hordes (north from the Sea of Aral); the *Turcomans* (east from the Caspian Sea and south from the Sea of Aral, *pl.* 72, *fig.* 5); the *Nogais* (*pl.* 72, *fig.* 8; *pl.* 73, *figs.* 3, 5, Crimea, European South Russia); the *Kazan Tartars* (*pl.* 74, *fig.* 1), the *Kumuks*, *Kara-kalpaks* ("black caps"), and others. Other nationalities celebrated in history belong here, of which we will only mention the *Huns*, the *Bulgarians*, *Avares*, and *Alans*.

5. The *Samoieds* are divided into six races: (1) the *Jurak Samoieds*, from the White Sea to the Yenisei, whose language has five dialects; (2) the *Tawgy* (-awamsk) *Samoieds*, eastward to the Khatanga; (3) the *Yenisei*

Samoieds, with two dialects, living between the two named races on the lower Yenisei: these three races wander about on the *tundras* of the icy sea, or are also fishermen on the Yenisei; (4) the *Ostyak Samoieds*, who dwell in the woody mountains around Tomsk; (5) the *Kamassings*, on the right bank of the upper Yenisei; and (6) a number of tribes—the *Soyotes*, *Koibals*, *Karagasses*, and *Matores* in the Sajan mountain-lands—who now speak the Turkish language.

6. The sixth and last division is the *Finnish* race, after the *Samoieds* the least numerous, but in every other respect the highest and best developed of all. To them belong (1) the *Ugrian* people, the *Ostyaks* (on the Obi at Tobolsk), *Uguls* (North Ural), and *Magyars*; (2) the *Bulgarian* or *Volga* people, the *Tcheremisses* and *Mordwains*; (3) the *Permian* people, the *Syrjans* on the Petchora, and the *Voltyaks* on the Kama and the Viatka; and (4) the Finns proper—the *Suomi*, as they call themselves; then the *Esthoniens*, *Lapps*, *Lixonians*, etc. The *Tchuvashes* (Kazan), *Bashkirs*, and a few other peoples now speak Turkish, although of Finnish descent.

In passing from the ethnographical to the anthropological consideration of these peoples, we must first speak of the *Japanese*, the principal mass of the Liu-Kiu Islanders, the *Ainos*, and the *Coreans*, for they have developed themselves in quite a peculiar manner. The chief reason for this is their insular remoteness. That the Japanese have attained such a height of culture is owing to the favorable nature of their home, which stimulated the various capabilities of the immigrants, presented no insuperable difficulties, and by its insular character secluded them for a long time from foreign sources of danger.

Physical Characteristics: Japanese and Coreans.—In build they are mostly of middle size, and yet in some parts of Japan they are large and strong; the skin yellowish (in women light), tending to brown in the case of those leading out-of-door lives; the cheeks broad, the forehead low, narrow, almost tapering, the chin small; the eyes often diagonal, always dark (black, seldom brown) and small, but larger than those of the Chinese; the hair always black and luxuriant; the nose small, yet wide. All these features may be seen on our plates (*pl.* 62, *figs.* 1-5; *pl.* 63, *figs.* 1, 3, 4, 6). The eyebrows of the Japanese are full and strongly arched (*pl.* 62, *figs.* 1, 2)—a point that they always bring prominently to notice in their paintings (*pl.* 64, *fig.* 9). It is worthy of note that the more noble families are less marked in this particular. This appearance is seen also in the Coreans, who are on the average somewhat larger.

Here we have sometimes the pure Mongolian type (*pl.* 66, *figs.* 5, 7; *pl.* 67, *fig.* 4); also faces more European in character, with nose not flattened; with cheeks not so broad; fuller beard, which, however, among the Coreans shows the Mongolian scantiness (*pl.* 66, *fig.* 7), and larger eyes (*pl.* 66, *fig.* 6). We cannot consider that there has been an intermixture of foreign elements here, when we remember the seclusion of Corea and its position between peoples of pure Mongolian stock.

The Coreans, who are dependent upon China, have a considerable

civilization, which exhibits unmistakable Chinese influence. They also received their Buddhism from China about 370 A. D., and it passed from them at a later date to Japan. There are also numerous idols representing protecting gods (*pl.* 67, *figs.* 2, 3; the figure at the left is a representation of Buddha), to which sacrifices are offered, and Buddhist monasteries are numerous. The character of the people is excellent, but not so that of the officials, whose despotic government is often excessively oppressive. Polygamy prevails, but the families live together in harmony. In spite of the isolated position of the country, commerce is flourishing; Plate 67 (*fig.* 5) shows a Corean trading-boat.

Physical Characteristics of the Ainos.—They are of medium size, with strong bones; darker than the Japanese; the men not ugly; the eyes slender, the iris not very dark (light brown); the nose small and broad; the mouth somewhat turned up. On the whole, they are not unlike the Japanese. The women are tattooed on the hands and upper lip, so that they look as though they wore a moustache twisted up. This is the mark of a woman of rank. They are not over-cleanly. Plate 66 (*fig.* 4) represents in full costume a Gilyak, of a tribe of the Ainos settled on the mainland.

The full beard is found among the Ainos, of whose hairy bodies so much has been said. The most trustworthy observers assure us that except in a few isolated cases the hairiness is not greater than in Europeans, but that it is always to be seen on the breast and legs—a fact that ranks as a curiosity among Mongolians. But it is not to be forgotten that the inhabitants of the Liu-Kiu Islands have also heavy beards (*pl.* 60, *fig.* 4). The hair of the head, which is shorn away from over the brows, is luxuriant, wavy, and somewhat woolly in character. The beard hangs in thick, soft tufts, often to the middle of the breast (*pl.* 66, *figs.* 1, 2).

Public and Domestic Life of the Ainos.—Their clothes are made of tree-bark, often ornamented with dark-blue figures; dog- and fish skins are also used. Their dwellings are huts or roofs built over a hole in the ground; they have vessels, pots, fish-hooks, nets, and mats (*pl.* 66, *fig.* 1); their food is fish, sea-weed, game, and a kind of millet. Spirits and tobacco—the pipe being an unfailing companion (*pl.* 66, *fig.* 1)—are now much used; in earlier times their only drink in winter was snow-water. Their provisions are kept in little houses standing on piles (*pl.* 66, *fig.* 1, at the left in the background).

They are skilled fishermen and sailors, having really good boats (*pl.* 65, *figs.* 4, 5) and knowing how to sail on the sea. Their weapons are bow and arrows, Japanese swords and clubs, which are secured at the waist (*pl.* 66, *fig.* 1). The last-named illustration also shows how they carry loads by a band passing over the brow and hanging down the back. Plate 65 (*fig.* 7) gives an idea of their artistic tastes; they are also not without skill in music, and possess a simple instrument with several strings like a guitar (*pl.* 65, *fig.* 6).

They are monogamous, but polygamy is allowed; they generally select their wives from distant families. Family life is strict, and upon it rests

what little of government they possess. The dwelling of a dead man is pulled down; the corpse itself is either burned or dried, and then laid in the grave, which has a roof like a house (*pl.* 66, *fig.* 3). Posts from the demolished house are set up in a sort of doorway-like arrangement in memory of the dead.

Religion of the Ainos.—They pray to the sun, moon, sea, etc., but they also believe in an invisible God in the heavens, as also in an evil principle; they have rough idols, and sacrifice to them. Bears are holy animals; in most of the houses they keep one half tamed which has been nursed at the breast by the woman of the house. The story that the people ride on them is untrue; but they bring bears' heads into their houses and to holy places, and pay them honors. At the time of their feast (*Omsia*, which is celebrated yearly, bears' heads and flesh play an important part (*pl.* 66, *fig.* 2.)

Dress of the Japanese.—The apparel varies according to circumstances and to rank. The middle classes wear a cotton shirt and undershirt, wide trousers, and over the whole a caftan with wide sleeves (*pl.* 63, *fig.* 6); the women wear over the underclothing an overskirt with wide sleeves and very broad below, secured with a sash (*fig.* 4). We cannot describe all the styles of ornament in the clothing [see *pl.* 62, *fig.* 5; *pl.* 63, *fig.* 1; *pl.* 64, *fig.* 9, and notice on the lady on *pl.* 62, *fig.* 5, the large fold of the sash in the front, a mark that she is married—unmarried girls wear the loops behind (*pl.* 63, *fig.* 4)—also the high shoes, quite like those of the priest (*pl.* 63, *fig.* 10), and the shoes of the farmer (*pl.* 63, *fig.* 7), the latter finding them useful for wading through deep mud]. Ordinarily, straw shoes are worn (*pl.* 63, *fig.* 6), which are open behind, and are laid aside on coming into a room. The poor content themselves with sandals (*pl.* 63, *figs.* 2, 8). In the case of the Japanese coolie (*pl.* 63, *fig.* 9) the dress is merely a breech-cloth and foot-bands.

The court-dress is voluminous (*pl.* 62, *figs.* 6, 8, 9). The noble Japanese (*fig.* 6) wears extremely wide trousers, and over them a still fuller caftan with very long and wide sleeves, all in silk and ornamented with beautiful devices. In common life black or blue clothes are generally worn, each article of which has the name of the owner upon it (*pl.* 63, *fig.* 1, the two round marks in front, the square figures on the sleeves, *fig.* 4; comp. *figs.* 3, 6). To complete the dress of the Japanese, we must mention also the large waterproof hat woven out of straw or bamboo in varied forms, as well as the parasol (*pl.* 63, *figs.* 2, 7). For the use of travellers parasols are prepared which are illustrated with maps and contain the names of the hotels and their scale of prices marked upon them.

The Japanese men, like the Ainos, cut off the hair on the front of the head (*pl.* 62, *fig.* 4; *pl.* 63, *figs.* 1, 6, 8; *pl.* 65, *fig.* 1). They begin the practice in childhood, and gradually extend the bare surface (*pl.* 62, *fig.* 1). The women let the hair grow and gather it up into a knot on the crown, where it is secured with combs, bands, or long needles (*pl.* 62, *figs.* 2, 3, 5; *pl.* 63, *figs.* 3, 4; *pl.* 65, *fig.* 1). When they marry they paint

themselves like the Aino women (p. 260), and color the teeth and lips black. Among the Ainos tattooing begins at the seventh year.

The head-ornament of the mikado (*pl.* 62, *fig.* 8) and of the courtiers (*pl.* 62, *fig.* 6) is characteristic, and strictly in accordance with the rank of the individual. The rider (*pl.* 64, *fig.* 9) wears a light cap, and his servants cowl-like caps which are extensively used by Mongolians. He has the wide trousers caught up at the knee, into which the broad overgarment is thrust according to the custom of riders and travellers, but he holds the reins himself, and sits with his legs spread apart; though in old times riders sat on their horses as ladies do with us and the horse was led by servants. The servants wear comfortable camisoles and broad, high-bound trousers and gaiters, as the farmer on Plate 63 (*fig.* 8); but generally, for comfort's sake, the working classes wear no covering for the legs. The curious dress of the farmer (*pl.* 63, *fig.* 7) consists of thickly-woven straw, of which the stems project like fur. The Japanese bathe frequently and keep their clothes and bodies very clean. The same sense of neatness is apparent in their houses.

Dwellings of the Japanese.—These are generally of one story, and not high, made of wood, even to the shingles of the roof, and sometimes plastered with clay on the outside; they are provided also with galleries, overhanging roofs, under which are open verandahs, or with broad projections of fine lattice-work, which give the house a comfortable appearance. The houses of the citizens (*pl.* 64, *fig.* 1) are simpler than those of the nobles (*pl.* 64, *fig.* 7), because greater luxury in clothing and in manner of life is by law very strictly forbidden to the former. Each family has a house to itself. The partitions inside are of twisted work or thick paper pulp; the windows are either quite open or are supplied with very fine weavings (*pl.* 63, *fig.* 5) or oiled paper.

The walls of the rooms are hung with tapestry beautifully painted (*pl.* 65, *fig.* 1); the floor is laid with fine matting, which takes the place of most of our household articles, for the Japanese use no chairs, etc., but every one, noble (*pl.* 62, *figs.* 8, 9) and common (*pl.* 65, *fig.* 1), sits on these mattings. The largest palaces are built of wood, as well as the small (*pl.* 63, *fig.* 5) and large temples (*pl.* 65, *fig.* 2), whose interiors and exteriors are well shown in our plates. Bridges, gates, and in short all things, are of wood. There is in every house, under the roof, a water-tank for use in case of fire. Poor people live here, as among the Ainos, in holes dug in the earth and covered with a roof. Towns and cities, even the largest, are almost always built quite regularly.

Food and Stimulants.—Rice is the staple food of the Japanese, and tea the principal drink; it is always served at family meals (*pl.* 65, *fig.* 1); the illustration also shows the various table appointments. They eat fish, lobsters, mussels, different vegetables and fruits—meat less often, and then generally fowl. A favorite delicacy is the sugar sea-weed, which formerly was a staple article of diet for the whole people (as it still is among the Ainos), but is now used for presents, etc.

All Japanese smoke tobacco, even the women; every man, even the poorest, has his tobacco-pouch hanging at the belt (*pl.* 63, *fig.* 8). They are very fond also of spirituous drinks (*saki*, a kind of arrack). A garden is attached to every house, though to our taste their gardens are too full of ornamental plants; and agriculture, like horticulture, is admirably carried on. Their skill at sea is remarkable.

Art and Literature.—What the Japanese accomplish in the arts is too well known to require comment. They never rise above the level of a well-developed industrial art, and their painting, the most important of this kind, is in the bonds of a conventional mannerism, which is indeed characteristic, and in the representation of natural objects often excellent (*pl.* 65, *fig.* 1, in the background), but sometimes mere caricature (*pl.* 64, *fig.* 9). Their literature is not superior, although much is read and written.

Romances and dramas are the favorite forms of composition. Dramas from the history of gods and heroes are acted at their religious feasts with great splendor of toilet and decoration; they also have pantomimes or ballets, and the excellence of their jugglers is celebrated. On the other hand, their music is poor. They have no imagination: their minds are practical like those of the Chinese, but much more elastic.

Character of the Japanese.—Their capabilities are excellent, and their character is not bad. They are active and industrious, merry and open-hearted, not dishonorable, brave and noble, and pleasant to deal with. Their speech also is a varied one, owing to the different modes of address used to equals or to inferiors and among the different classes.

Family Life of the Japanese.—Their family life is lax according to our ideas, for polygamy is allowed, as with the Ainos. The men visit disreputable houses without discredit, and girls who have lived in such places for years may at last marry honorably. Very primitive ideas prevail upon all these topics. The children, however, are well cared for: the respect shown by them to their parents is often very great, and relatives are warmly attached to each other.

Government.—In ancient times the government was based on the family, as among the Ainos; but in Japan it was developed further and formed into a theocratico-despotic state. The emperor, or mikado, is said to have been first installed about 660 B. C., probably by Chinese influence (Kämpfer). He is considered to be related to the gods and as being himself god-like. Even in Kämpfer's time (1690) he was considered so holy that, like the princes of Tahiti, he dared not touch the earth with his feet. The power of the daimios, or princes, is derived from him, and they likewise claim heavenly descent. This view of the ruler's sanctity is now much modified, but it explains the present form of political life to the minutest detail. As was the case with the temporo-spiritual rulers of some of the South Sea islands, the mikado was gradually withdrawn from political life into a more holy, spiritual, and inactive retirement. But within late times he has regained his former power without sacrificing his holiness. He has twelve wives (at least this was the custom), of whom the one who

bore the crown prince is made chief wife with the title of *kisaki* (*pl.* 62, *fig.* 9). The strict formalities and gradations, as well as the great splendor, of the court (*pl.* 62, *figs.* 6, 8, 9) are a consequence of the mikado's sanctity.

Caste.—The class-division of the entire people takes place in accordance with the view that some castes stand nearer to the gods than others, that they are therefore holier, and that those of less sanctity dare not come among them. Thus the populace is divided into eight castes or classes—princes, nobles, priests, warriors, officials, merchants, artisans, and finally workmen, farmers, and day-laborers. Standing outside of the castes, because unclean, are the executioners, tanners, bawds, etc. The strict laws of the Japanese, the rigid classification of their political system, as well as the privileges of certain classes (as, *c. g.*, hunting being allowed only to the nobility, who are passionately fond of it), all come from the same source. Hunting with falcons is practised here (*pl.* 64, *fig.* 9).

Weapons and Warfare.—The Japanese are skilful in the use of weapons. They have now adopted the European manner of warfare, but in antiquity they used stone weapons, lances and arrow-points (*pl.* 64, *figs.* 13–15), knives (*fig.* 19), and axes (*fig.* 21) very similar in material and workmanship to the European relics of the Stone Age. The weapons of the Middle Ages among the Japanese resemble the European weapons of the same period, as is evident from a glance at the heavy, padded armor of the *dai-sjo*, or chief field-captain, with its neck-gauntlet, artistic helmet, and mask-like visor (*pl.* 64, *fig.* 23); at the heavy war-boots (*pl.* 64, *fig.* 18) which belong to this and to similar outfits; and finally at the long lances with differently formed tips (*pl.* 64, *fig.* 4–6), which were concealed in corresponding sheaths (*pl.* 64, *figs.* 2, 3).

The Japanese and Coreans had, like the Chinese, ponderous instruments for siege (*pl.* 60, *fig.* 5); and they also, like the Ainos, used bows and arrows. There were two peculiar kinds of arrows—the burning arrow (*pl.* 64, *fig.* 8) which was shot while flaming, and which, striking wooden structures, put them in great danger; and the screaming arrow, the lower end of which is shown on Plate 64 (*fig.* 12), which was hollow, with tube-like openings, so that in flying through the air it made a loud howling sound, inspiring terror in the enemy's ranks. Particularly important is the sword of the Japanese, which the Ainos copied from them: the soldiers and nobles carry two such swords, always near together in the belt (*pl.* 62, *fig.* 7; comp. the hunters, *pl.* 64, *fig.* 9).

Antiquities.—Among the antiquities of the Japanese are to be mentioned the *magatamas* and the curiously-shaped pots (*pl.* 64, *figs.* 16, 20, 22) in which they are usually found. The *magatamas* are crooked, egg-shaped, or disk-like stones (*pl.* 64, *figs.* 10, 11), which are held in high repute as amulets; and among the Ainos the chiefs still wear them in chains which are esteemed of great value. Plate 65 (*fig.* 3) shows one of these chains. The crooked solitary stones are the *magatamas*, the others are obsidian pearls.

Religion.—The Sinto creed, which was the religion of the ancient Jap-

anese, much resembles the present belief of the Ainos. In the beginning there were seven gods, who rose from chaos; of whom the last one, Isanagi, fished the islands of Japan out of the water with his spear. At the same time the second race of gods, or the five deities of earth, whose name means "the beam-casting god," were born of him and of his wife Isanemi. By these are unquestionably meant the heavenly bodies, particularly the sun, whose son, Tsin-mu, was the first father of the mikado and the daimios, wherefore the mikado is honored as his representative and as a god.

There are multitudes of *kami*—*i. e.* gods and *genii*—dependent upon the sun and guardian spirits of individuals and cities. Human souls are dependent upon them, and either continue to live in the heavenly fields of happiness after a righteous life, or are punished by being compelled to wander about on earthly or subterranean paths. The dead are buried with numerous ceremonies connected with the worship of souls. Formerly little buildings like temples (dwelling-places for souls) were built over the graves as monuments; now in the cities we find garden-like cemeteries. Foxes are held to be evil spirits, and the souls of bad men are believed to transmigrate into the bodies of these animals; nevertheless, fox-hair brushes are often used.

The teachings of this religion are worthy of notice. It inculcates purity of heart, which consists in strict obedience to the laws of religion and in a temperate and reasonable life and purity of outer life, which excludes the use of blood or meat and forbids touching a dead body. Whoever does the latter (*c. g.* executioners and tanners) is unclean, and must live apart from other men for a longer or shorter time. Therefore, all those who have buried a relation are unclean for a time proportionate to their nearness of kin to the dead—a custom also in vogue among the Ainos. Washing with water removes this uncleanness. These usages correspond with the Polynesian taboo (pp. 194, 200), and many other things in the Japanese religion remind us of the Polynesians.

In the beginning the law of uncleanness was applied materially, and as a consequence it reduced the diet of the Japanese to narrow limits; later, it received a more spiritual interpretation. The form of uncleanness most dreaded at present is that from wicked speaking as well as from the improper use of ears and eyes.

Temples.—The Sinto religion has temples, which rest upon small piles and have open windows and galleries (*pl.* 63, *fig.* 5). In the interior the sun is represented by a mirror, before which prayers are offered. The temples are entered through a kind of wooden door resembling those which the Ainos erect on graves; the Aino graves also are built in the form of these temples (*pl.* 66, *fig.* 3). Pilgrimages are made annually to specially holy places. The poorer pilgrims (*pl.* 63, *fig.* 2) wear over the usual dress a loose light-colored jacket with a pocket in which they collect alms. There are no priests, the temples being kept by laymen, but there are numerous feast-days—*c. g.* the first day of each of their twelve

or thirteen months—and five principal feasts, among which that of the new year is the greatest. They have also monkish orders, whose members resemble the fakirs.

Buddhism.—Buddhism is now more widespread than the Sinto religion. It made its way from Corea about 543 A. D., and is now much mingled with the Sinto creed. For example, the temple on Plate 65 (*fig. 2*) is holy both to Buddha and to the "five hundred genii" of the Japanese religion. These are children of the goddess of riches, and are worshipped on special feasts. The manifold objects displayed in the temple serve both to adorn it and to interest the faithful. Buddhism has become divided into various sects, and through intermixture with the Sinto creed is less sensual than in its original home, but otherwise has remained unchanged. Plate 63 (*fig. 10*) shows a Buddhist priest. The third creed, which has but few followers, and those only among the learned, is Confucianism, much modified by the Sinto.

We group the other people of the Ural-Japanese stock in the following ethnological description. We have already alluded to their bodily peculiarities, and have also spoken of the manifold transitions which must necessarily appear in so extended a population.

Dress and Ornaments.—The clothing differs as we go north or south. The southerners dress essentially as the Indo-Chinese and Japanese: the men wear wide trousers, and over these a loose caftan, with a belt from which the more indispensable articles hang (*pl. 70, fig. 1; pl. 72, fig. 5*). The poorer tribes wear a kind of jacket (*pl. 73, fig. 3*); instead of the caftan the more prosperous ones and the noble classes have an ungirded, flowing robe over the caftan, like the Kirgheez (*pl. 71, figs. 2, 3*) and the noble inhabitants of the Crimea and of Khiva (*pl. 73, figs. 1, 2, 5*). The women dress in the same manner (*pl. 70, fig. 1*) or similarly (*pl. 72, fig. 8; pl. 74, fig. 1*).

Of course there are all kinds of ornaments—splendid belts (*pl. 72, fig. 7; pl. 74, figs. 3, 4*), rich stomachers (*pl. 74, figs. 1, 3*), etc. Colored cloths are common, red being the favorite color. For the head there are high felt caps or a flat hat (*pl. 70, fig. 1*), or, as among the Kirgheez, a light cap. The head-dress of the women is often richly ornamented and colored (*pl. 72, figs. 7, 8; pl. 73, fig. 4; pl. 74, figs. 1, 3, 4*). The curious head-ornament on Plate 73 (*fig. 4*) consists of a high framework of bark, over which a cloth is drawn; this figure reminds us of many costumes of Farther India.

Cloths wound about the head, often hanging low down (*pl. 72, fig. 8*), designate the married women (*pl. 71, fig. 2*): the middle one of the Nogais women (*pl. 72, fig. 8*), who has a long queue, and the Kirgheez sitting in the middle (*pl. 71, fig. 3*), are maidens, for only they wear the hair free; the Kirgheez women at the right with high-pointed caps and long veils are brides. The Turks (*pl. 72, figs. 1, 2*) wear turbans, like all Mohammedans. The trousers are bound up at the knee or (among the

women) at the ankle, or are pushed into the boots (*pl.* 70, *fig.* 1; *pl.* 72, *fig.* 5), or gaiters. They always have shoes, and the central Nogais woman (*pl.* 72, *fig.* 8) shows the curious foot-covering that we have already noticed in Japan. The Calmuck women wear the hair in long queues; the men shave it off, with the exception of a long tuft on the top of the head, which is often also twisted into a queue (*pl.* 70, *fig.* 1).

The greater part of these peoples—at least the southerners—sit in a squatting posture (*pl.* 69, *figs.* 7, 11; *pl.* 71, *figs.* 2, 3; *pl.* 73, *fig.* 1). The same dress is worn in the north, except that much more of the costume is worn close-fitting, and the material is not cotton, but mostly skins or fur. The Tungusian races of Saghalin afford a good example of this (*pl.* 67, *fig.* 6). The felt caps which in the south—*e. g.* among the Calmucks (*pl.* 70, *fig.* 1)—were sometimes covered with fur, are here of leather or fur, and made so as to cover the ears (*pl.* 68, *fig.* 6; *pl.* 70, *fig.* 9), with fur cowls (*pl.* 69, *fig.* 6; *pl.* 74, *figs.* 6, 7, 8, the child) and high or low fur caps over all (*pl.* 68, *fig.* 2; *pl.* 69, *figs.* 3, 4; *pl.* 70, *fig.* 3).

The coats, of fur with the hair worn inside, or of soft tanned leather, are full but short, and bound in at the hips with a belt often richly ornamented (*pl.* 69, *figs.* 5, 6; *pl.* 75, *fig.* 8); and they are well provided with cowls and fur collars, embroideries, etc., etc. (*pl.* 75, *fig.* 7). Only among the Tunguses are they worn close-fitting to the body (*pl.* 68, *fig.* 9). The bodice forms a peculiar ornament which either hangs directly from the hood (*pl.* 69, *fig.* 6) or is not closed in front (*pl.* 68, *figs.* 4, 5).

The trousers are generally tight at the knee and pushed into boots or gaiters, which, like the gloves (*pl.* 77, *fig.* 2), are made of fur, and sometimes firmly bound in by straps attached to the sandal-like shoes (*pl.* 68, *fig.* 5). The leather breeches of the Yakoots are peculiar; they are put on in separate pieces; the two legs are first bound in at top and bottom, and then an over-piece, like a pair of batting trousers, is pulled on over them and covers the body (*pl.* 70, *figs.* 7, 14). The wealthier women wear as outermost garment a richly-ornamented short coat, open in front so as to display the costly breast- and belt-ornaments (*pl.* 69, *fig.* 4; *pl.* 70, *fig.* 3).

The finely-dressed Samoied woman (*pl.* 74, *fig.* 6) wears a fur coat with the smooth side outward, ornamented with stripes of fur and colored stuff, and a similar richly-ornamented fur jacket, and her colored cap is covered in front and down the neck with the fine feathers of sea-fowl. The Lapps (*pl.* 75, *figs.* 1, 3) wear the common dress of the North Mongolians; on the other hand, the Finns (*pl.* 75, *figs.* 2, 4) are clothed like the Swedish peasants. Ear-rings, often very large (*pl.* 69, *fig.* 4; *pl.* 70, *fig.* 3), neck-chains (*pl.* 69, *fig.* 4; *pl.* 75, *fig.* 6), and embroidered gloves (*pl.* 74, *fig.* 6) are the usual ornaments. Their winter and summer dresses are different.

Dwellings and Structures.—The dwelling-houses of these peoples are much alike, except that the northern races make different provision for winter and summer. Plate 71 (*fig.* 1) shows this double style of con-

struction in a Yakoot village. At the right stands the summer house, a conical tent made of wooden laths covered with pieces of soaked birch-bark sewed together, open at the top to afford exit to the smoke. These tents are portable, and well adapted to the summer wanderings of the Yakoots. On the left, in the background, are seen their winter houses (*yurts*), built of beams and covered with earth and grass. The stables are built against the back wall; the interior is a room with the fire in the middle and an elevated seat against the walls, which serves also as sleeping-quarters—an arrangement which we found, but more elaborate, among the Manchooks (*pl.* 59, *fig.* 3).

The household furniture consists of hunting weapons, vessels, etc. The dwellings of the poorer Lapps resemble the summer tents of the Yakoots, being tents of lath with coverings (*pl.* 75, *fig.* 1, at the right), while those of the wealthy are seen on Plate 76 (*fig.* 3), only they are not excavated, but stand on the earth's surface and have doors. On the other hand, the huts of the Calmucks and Kirgheez have the tent form; the rafters are bound together with ropes and straps, and are elevated over a circular foundation about the height of a man, which is made of twisted work or boards. The upper part is covered with felt, and the lower part is draped with finer stuffs, often (among noble families, *pl.* 71, *fig.* 2) with silk (*pl.* 69, *figs.* 7, 8). But all these dwellings are apt to be very dirty.

The inhabitants of the Crimea, like many of the mountain-people of China and Japan, have their dwellings half under ground, excavating them in the rising slope of a mountain (*pl.* 73, *fig.* 3, at the right). The light felt huts of many of these people may easily be transported on wagons; indeed, with their nomadic habits they may be said to live almost entirely in the *yurts* or *kibitkes* on their two-wheeled carts, of which some are seen on Plate 72 (*fig.* 8, in the background). The majority of these peoples are nomads, living partly as hunters and partly as drovers, shepherds, etc. Only the fishing-folk and the more cultivated tribes, the Finns, Magyars, and Turks, are sedentary.

The sleigh is an important vehicle to the northern people; they have various kinds for reindeer or dogs. Plate 70 (*fig.* 6) is a large sleigh from Eastern Siberia. The reindeer is to the nations of the north what the camel is to those of the south and the horse to those of the south-west. It is used for burden, for draft, for herding, and hunting.

Food and Stimulants.—The produce of the herds, of the chase, and of fishing forms their food. Fish are eaten both fresh and dried. Wild and tame meats are eaten dried, or boiled fresh, or even raw. Religious scruples prevent the common people from the enjoyment of many kinds of flesh. Horse-meat is prized, and great value is attached to the milk of cows, sheep, and mares; it is used both sweet and sour, and made into butter and cheese. The well-known koumiss is the fermented milk of mares or cows. The Oriental method of preparing it is as follows: Take two teacupfuls of wheat-flour dough, two spoonfuls of millet flour, one spoonful of honey, one of yeast; mix with milk to a thin paste and put

in a warm place to ferment. When fermented, put it in a linen bag and hang it in a jar with sixteen pounds of fresh milk; cover, and let it stand till the milk is acidulous; skim, decant, and agitate for an hour; then bottle (*pl.* 74, *fig.* 2). It is found particularly among the Kirgheez. As to vegetable food, tea is a staple among the more easterly races (Kirgheez, Mongolians), and among those more favorably situated corn is used. Tobacco is smoked everywhere, even by the women. The tobacco-pouch (often embroidered, *pl.* 76, *fig.* 8) always hangs on the belt. The pipes are either of the common clay (*pl.* 73, *fig.* 5) or are the so-called Turkish pipe (*pl.* 73, *fig.* 3).

Water- and Wind-mills.—They have water- and wind-mills: with the latter the sails do not move perpendicularly, as with us, but horizontally around the axle, looking like an immense horizontal mill-wheel, upon which the wind acts at the sides (*pl.* 70, *fig.* 1, background). Their water-mills are also peculiar: the water falls from above upon a horizontal wheel, which turns one of the horizontal millstones, the other being stationary, and so grinds the corn, which is directed between the stones by a funnel (*pl.* 74, *fig.* 5).

Agriculture.—Among the lower classes of the people agriculture is very primitive, as is shown by the plough of the South-Turkish races. The wandering hordes cultivate the ground wherever they may happen to go.

Art and Literature.—Little can be said concerning the artistic performances of these nations. Their music, in which they indeed take much pleasure, is undeveloped, monotonous, and often melancholy; they have various musical instruments (*pl.* 71, *fig.* 3). They often dance to the music, and the dances, which are frequently very absurd, seem originally to have had a religious significance. Plate 75 (*fig.* 8) shows the bear-dance of the Ostyaks, which is much in vogue among the northern tribes. They twist their bodies into the ugliest and most unnatural contortions during the dance. They have done better in poetry, particularly the Turkish and Finnish tribes, whose epics are of some importance. All of them take pleasure in fairy-tales, of which they have many, and of which the greater part, at least among the Mongolians, have an Indian origin. In their lyric productions there is real poetic feeling.

Intellectual Faculties.—The majority of individuals among all branches have good natural powers. Their understanding, indeed, prevails over the imagination, but of what development the latter is capable is shown by the Finns and other of the northern tribes. Where it seems wanting, as in Japan and in China, it is only in consequence of their historic destiny. For the life of thought only develops itself where the inhabitants have learned to struggle with unfavorable natural surroundings and yet preserve their own mental freedom. As a class they are highly gifted, as their historic deeds, their successful wars in Asia and Europe, and still more their capability of founding great kingdoms, prove. It is true that Attila's kingdom in Europe and the great Mongolian kingdoms

in Asia have not lasted, but the kingdom of the Turks and the power of the Manchoos have stood firm. What is of more interest to us is the high development of certain branches of this race—the Japanese in the far East, the Turks in the South, and the Finns in the North. Many of them are but half civilized (Kirgheez, Mongolians, etc.); others remain barbarous, as the Yakoots and the Samoieds, but in their case unfavorable natural surroundings have prevented the development of civilization.

Character.—As regards character, travellers give us very different descriptions. As principal traits of the races at large we may mention great indolence, which they display both in their wandering life and in their religion; utter disregard for others, which often assumes the form of terrible cruelty; servile and revengeful minds and a barbarous fondness for destruction. The feeling of gratitude is unknown. The greater part of them are described as dirty and greedy, but this is to be understood of those living in a state of nature, and by no means of all. The Tunguses admire manly activity and independence; the mountain-Calmucks of the Altai are good-natured, chatty, and easily placated.

Family Life.—Polygamy is allowed and practised, but the first wife is the chief and her children have precedence. Inasmuch as the women, on account of the inheritance coming through them, must be purchased from the fathers-in law, the poorer classes generally have but one wife. The different wives live harmoniously together, and after the father's death the son inherits them, with the exception of his own mother; the widow of a brother goes to the surviving brother. The women respect the marriage-tie. This description of the Mongolians given by Marco Polo serves essentially for the whole of this race, only that among the more debased the position of woman is more miserable. For instance, the offering of wives or daughters to honored strangers is considered an act of politeness, and not at all a debasement. The idea also originally prevailed widely among them, and is still believed in Siberia, that man stands nearer to the gods, and that woman is not so holy. Only among the very lowest are the marriage ceremonies dispensed with; among the better classes they are numerous and elaborate. We have already alluded (p. 268) to the curious costume of the Kirgheez brides (*pl. 71, fig. 3*).

Government.—The family is the foundation of the state government, which is patriarchal among the more uncivilized and despotic among the more elevated tribes. The paternal power of the ruler is unlimited, because the king stood nearer to the gods, and therefore became despotic. Considering this, the servility prevalent appears in a milder light: this also explains the slight worth of the common man in comparison with the higher classes, as well as the strict division of castes, which we find here as in the East.

Weapons.—The weapons that Marco Polo found among the Mongolians were bows and arrows, iron clubs, lances, and armor of ox-hides, which when dried at the fire become very hard. They use bows and arrows

even at the present time, as Figure 5 (*pl.* 72) shows; notice also the cover half drawn over the bow. There are swords too, richly ornamented (*pl.* 71, *fig.* 2; *pl.* 72, *fig.* 5). At present firearms are becoming more and more used (*pl.* 70, *fig.* 1). The Turcoman (*pl.* 72, *fig.* 5), like the Bashkir (*pl.* 70, *fig.* 1, at the left), holds his riding whip in his right hand. They have military discipline and an art of war, to which they owe their historic significance. Their peculiarities, however, are disappearing before the increasing influence of Russia.

Religion.—Many of these peoples—Turks, Kirgheez, West Siberian races, etc.—have adopted the Mohammedan religion; others—as the Mongolians, Buriats, and Calmucks—are Buddhists; and still others—as the Yakoots and other Siberian races—profess the Greek Catholic faith, just as all people of Mongolian descent living in Europe, except the Mohammedans, are Christians. But many in Asia have retained, even under cover of modern religions, their original heathenism, which we will now briefly consider.

It is interesting to see how it corresponds with the Sinto of the Japanese and with the old Chinese religion. All worship one special, powerful god of heaven (Jumala among the Finns; Num among the Samoieds; Tengri among the Mongolians; Buga among the Tunguses; Turum among the Ostyaks), as well as other chief gods, the sun, the moon, the earth (whose masculine deity was, according to Castren, the Wainamoinen of the Finns), and the sea—the sun, as the most important, generally being identified with the god of heaven. Fire is worshipped as an earthly outflow of the sun's fire.

There are various other gods and evil powers, who live in dark forests or as death-gods in the interior of the earth. Some races, as the Ostyaks and heathen Yakoots, honor female as well as male gods. The souls of the departed become good or evil spirits, and are believed to haunt places like ghosts. Rewards and punishments are looked for after death. There are also multitudes of ghosts and genii; many are concealed in the form of animals, particularly of bears; others in trees, rocks, etc.; and there are numerous guardian spirits. Many of the gods of earlier times have become personified in the myths, as is the case with Wainamoinen. Idols are often seen, yet honor is not paid to them, but to the gods who have come down to and dwell in them. Trees are honored, being holy for the same reason. The images, often very rude figures, and sometimes merely a stake or pile, are placed under trees in holy groves or are kept at home in special baskets, or they have their own *yurts*, in which they follow the caravan when marching.

The highest gods, like Jumala, and also the protecting spirits and the souls of ancestors, have representations made of them. Many sacrifices are offered both in the family and publicly, as seen on Plate 73 (*fig.* 8), which represents the memorial of a great sacrifice by the Calmucks of the Volga after a pestilence among horses. The skulls of the horses are artistically piled and surrounded by a ditch. These tribes also pray to

the gods, and only the most ignorant believe that a spiritual communication between gods and men requires external ceremonies (Castren). Therefore, with these lowest classes the priests and the shamans, who mediate between gods and men, occupy a high rank. Women sometimes serve as shamans. The priests address the highest gods only in particular cases; generally the lower ones are solicited, as being sufficiently powerful. When communing with the gods the shamans are thrown into a condition of ecstasy accompanied with wild motions and gestures.

The clothes of the priests are much ornamented (*pl.* 69, *fig.* 11), often with pictures or with the feathers and skin of animals sacred to the gods. They prophesy, perform miracles, and heal diseases, which latter are believed to be the work of the evil spirits. They are by no means always deceivers. However repulsive Shamanism may seem to be or really is—the shamans of the old Mongolians ate human flesh in order to bring on the ecstatic condition, and similar traces of anthropophagism are found among the Ural-Japanese—in the beginning it rested on worthy and religious conceptions (see p. 63).

Burials.—The dead are sometimes buried on high mountains, like the Mongolian princes, or hung up in a box between two trees in the forest, as among the Yakoots, but generally they are buried in the usual way. Such articles as are deemed necessary for the future life are either laid upon or put into the grave, and the image of the deceased is carefully made (as, *c. g.*, among the Ostyaks) and honored for years. Such images in wood or stone are often set up on the graves (*pl.* 69, *fig.* 9). The Mohammedan Tartars build mortuary chapels, often in a tasteful style; such a building is seen, in a somewhat ruinous condition, on Plate 73 (*fig.* 3, on the right in the background).

2. ISOLATED NORTH ASIATIC PEOPLES.

Classification.—Although these tribes, as we have already seen, share the physical peculiarities of the Ural-Japanese stock, and are closely related to it, it will be better to consider them as an independent group having no closer relationship among themselves than with that stock. The peoples that we shall thus connect are—

1. The *Yenisei Ostyaks* (some thousand souls), west from the middle Yenisei, with the *Kottes* on the Agul (55° N. lat.), who are scattered among the Kamassings and number scarcely a hundred; also the *Arinzes* and *Assanes*, who are now practically Turks. They are closely related in manner of life and in mythology to the races already considered.

2. The *Yukairs*, as the Russians call them—the Odul, Ododomni, as they call themselves—from the Lena to the mouth of the Kolyma on the borders of the Arctic Ocean, to whom, besides formerly a few tribes on the Angui which are now extinct, the *Tchuwanzes* belong. They were once a mighty people, and are tall, handsome men, but, like the Yakoots, with Mongolian features. The Tchuktchis and the Koryaks drove them out, and they have mixed a great deal with them and with the Yakoots.

3. *The Tchuktchis and the Koryaks.*—The *Tchuktchis*—or, as the name (which is derived from the Koryaks) is properly pronounced, the *Tchautchis*—form one race with the Koryaks (from *kora*, reindeer), north of whom and eastward from the Tchuwanzes, between the Anadeer and the Arctic, they dwell. The Koryaks themselves live southward from the Anadeer to the Lamutes, and into Kamchatka across the island Karaga, which likewise belongs to them. Plate 78 (*fig. 5*) shows a North Siberian Koryak. The *Tchuktchis* and Koryaks differ only in dialect, being quite alike in external appearance and customs. The American immigrants, the Namollos, of whom we have already spoken (p. 211), are entirely different from them, yet it has been usual to include them under the name *Tchuktchis*. The *Tchuktchis* wander about with their reindeer on the *tundras* of their inhospitable territory.

Physical Characteristics.—The Koryaks are divided into two classes—those who are sedentary, and those who lead a nomadic life. The latter, owing to their manner of life, are small and lean (*pl. 78, fig. 4*), even if they are not absolutely poor; the former, on the other hand, are like the *Tchuktchis*, larger, with broad shoulders (*pl. 75, fig. 5; pl. 77, fig. 6*), but of thorough Mongolian build and features. The head is somewhat large, thick, and round; the face broad and flat; the eyes small, oblique, and dark, but rather dim; the nose quite flat and broad; mouth large, pressed down by the broad cheeks, and therefore broad (*pl. 76, fig. 1; pl. 78, fig. 5*). Yet there are some of this type not so marked; as, *e. g.*, the man on Plate 76 (*fig. 2*), with a more prominent nose and better-formed mouth.

Dress and Ornaments.—The *Tchuktchis* are often tattooed on the breast and arms. Their clothing, as our illustrations show, is quite Mongolian: the long, handsomely ornamented fur boots (*pl. 75, fig. 5; pl. 77, fig. 6*), the full fur over-wraps (*pl. 77, fig. 6*) which are worn over the ordinary, likewise full, fur clothing (*pl. 78, fig. 4*), the heavy fur collars (*pl. 76, figs. 1, 2*), the pearl chains and forehead band of the women (*pl. 77, fig. 6*), the ornaments worn at the waist (*pl. 77, figs. 3, 4*), as well as, finally, the light summer dress (*pl. 78, fig. 5*), are worthy of notice.

Dwellings.—The *Tchuktchis* dwell in large leather tents, divided into smaller tents for separate families, and lighted by oil lamps. The buildings of the Koryaks—whose wandering tribes likewise use tents in summer—are shown on Plate 76 (*fig. 3*), Plate 77 (*fig. 1*), Plate 78 (*fig. 1*). The walls and roof are of wood, so covered with earth on the outside that the structure looks like a round mound. The interior is divided into several parts (*pl. 76, fig. 3*), with a fire in the middle, the smoke escaping through a hole in the roof. This outlet serves as the entrance, being reached from the outside by a kind of ladder (*pl. 77, fig. 1*), and guarded above by a funnel-like arrangement of boards; the descent inside is made on a beam of wood pierced with holes (*pl. 76, fig. 3*). Close by stand the storehouses built on piles (*pl. 77, fig. 1*). The household articles are few—clothes, hunting apparatus, table utensils, etc. The squatting posture

is not exclusively adopted in the north; the people also sit as we do (*pl.* 68, *figs.* 4, 5; *pl.* 75, *fig.* 5; *pl.* 76, *fig.* 3; *pl.* 77, *fig.* 6; *pl.* 79, *fig.* 5; comp. also *pl.* 79, *fig.* 2).

Domestic Animals, Food, etc.—The chief domestic animals are dogs and reindeer (*pl.* 77, *fig.* 1; *pl.* 78, *fig.* 1), which draw the sledges. The food is fish, game, the produce of the herds, and all kinds of berries. Tobacco is the indispensable stimulant, the vessels for its use being well-made and handsome (*pl.* 70, *fig.* 10; *pl.* 76, *fig.* 8; *pl.* 77, *figs.* 7, 8). We cannot consider the Koryaks as destitute of skill and taste, as their handsomely woven baskets (*pl.* 76, *figs.* 6, 7), and particularly their artistic carving in such hard material as the tooth of the walrus, prove, the latter being often very beautiful (*pl.* 70, *figs.* 4, 5, 11–13).

Polygamy is practised. The women, whose status on the whole is not bad, are offered to honorable strangers, and this is expected by guests; but the nomadic Koryaks are said not to practise this habit, and to be very jealous. Their religion is entirely Mongolian and their shamans have great influence.

Weapons.—Their weapons, bow and arrow, knives (*pl.* 77, *fig.* 5; *pl.* 78, *figs.* 2, 3), lances (*pl.* 76, *figs.* 4, 5; note the handsome sheaths), etc., are well made. But Russian influence has probably had an effect here.

4. *The Kamchatkans.*—There still remain for our consideration the *Kamchatkans*, who are settled between the Koryaks and the Ainos of this remarkable peninsula. They call themselves *Itelimn* (pronounced *Itelnemen*). They are not many in number, owing to the ravages of the small-pox and to dissipation, and are fast disappearing, on account of the enmity of the Russians. They live in polygamy. They are small (*pl.* 79, *figs.* 1, 4, 5), dark in color, very dirty, and physically like the Mongolians. They most resemble the Koryaks. This is seen in their houses (*pl.* 79, *fig.* 2): their summer houses—tent-like huts on high piles (*pl.* 79, *fig.* 3)—remind us of the storehouses of the Koryaks.

Domestic Life.—They have many kinds of domestic utensils—troughs, pots, plates, etc.—made of birch-wood. Dogs serve as house animals and for drawing sledges. They steer their handsomely-ornamented sleds by means of curious long poles (*pl.* 78, *figs.* 6, 7); they make fire by rapidly twirling a stick in the hole of a board, into which they throw flour while the stick is turning, so that the fire is more easily obtained (*pl.* 70, *fig.* 8).

Religion.—Their religion and their views of the state of the soul after death correspond entirely with the Mongolian. Old women perform the priestly duties, and the religious inspiration is often produced by the intoxicating drink prepared from red agaric. There are now many Christians among them—at least in name. While the Yukagirs and Tchuktchis are of an earnest, melancholy temperament, they possess a sort of child-like merriment. And yet suicide is not unfrequent among them.

3. THE PEOPLES OF THE CAUCASUS.

We have already pointed out the unity of the Caucasian races among themselves, and the fact of their belonging to the Mongolian stock, and have noted their bodily peculiarities. We proceed to give an ethnographic sketch of the nations belonging to this division. The task is by no means an easy one, for, in the first place, they are very numerous; and, secondly, there are marked differences of speech among them, both of which reasons render their consideration as a whole most difficult. Both result from the nature of their region, the Caucasus with its narrow and secluded valleys. The proper division of their members will accordingly depend upon their places of abode.

1. We have the *inhabitants of the Northern Caucasus*, who are subdivided into an eastern section, the inhabitants of Daghestan; a middle section, those living on the high mountains; and a western section, the inhabitants of the western declivities of the mountains and of the country as far as the Kuban.

The inhabitants of Daghestan are (beginning at the north), first, the *Avares*; then on the shore of the Caspian Sea to Kaitak the *Darginian* races with their different tongues, among them the *Akuschans*, the *Chaidaks*, and others; south and south-west from these the *Kasi-Kumuches* (*Laks*, as they call themselves); and, finally, the *Kurins* along the Samur, as far as Kuba, who generally call themselves *Lesghians*—a name derived from the Turks, who call all the mountain-folk of Daghestan, Lesghians, so that this name has become universally adopted.

A number of tribes with different tongues belong also to the Kurins, so that it seems as though other small independent clans lived in this vicinity. Such are the *Udes*, in the south-east part of the Kurin territory. We must notice that the appearance presented by the people of the Caucasus as a whole is also shown in each individual division, for into each of the races named members of other races have penetrated. Thus among the Kurins there are Dargins, Kasi-Kumuches, etc.

The second or middle division contains only a few small tribes which are included under the name of the *Mizdsheges*. They live north-west from the Avares, and to them belong the *Tchetchenzes*, the *Karabulaks*, the *Thusches* (south-west from the Avares), *Pshans*, *Chesurs*, etc.

The western division—the *Tcherkesses*, as the Russians call them—are far more important, being subdivided into the *Adiges*, the Tcherkesses in a more contracted sense, or the *Circassians* and their various clans, and the *Abchas*, who likewise are divided into a number of isolated clans. Among the Adiges the *Kabardans* may be named on account of their influence upon the other nations of the Caucasus. There has been a large emigration from the territory of the Circassians into Turkey in consequence of their war with Russia in 1864.

2. The *inhabitants of the southern provinces of the Caucasus*: first, the *Svanes*, in the high mountain-lands between the Ossetes (an Indo-

Germanic people) and the Abchas; then south from them, on the coast of the Black Sea, the *Mingrelians*; eastward the *Georgians* (Grusians, Kartulians, as they call themselves), together with the *Imeritians*; and, finally, in the extreme south-west, on the sea-shore south from the Mingrelians, the *Laz*, who also, like all the peoples we have mentioned, are divided into numerous little subdivisions with different dialects. Various Turkish tribes have also settled in the Caucasus.

Space will not permit us to go into a full description of all of them; we must therefore content ourselves with a few remarks to explain our illustrations.

The Dress.—The dress generally corresponds with the Mongolian. The men wear tight trousers inserted into gaiters, over which are slipper-like shoes. They have two coats, both with sleeves, the outer one being longer and fuller, so that its sleeves have to be turned back; they are mostly made of white woollen stuff (*pl.* 80, *fig.* 3). The coat opens only on the breast, and shows the colored under-garment. In front on both sides are several prettily-ornamented pockets (*pl.* 80, *figs.* 3, 8, 9, 10, 12). It is always girded with a leather strap, and often covered with a water-proof mantle of long sheep's wool (*pl.* 80, *fig.* 11, right).

Snow-shoes (*pl.* 80, *fig.* 4) occur among the mountain-races. The dress of the women is quite similar, except that they close the overall to the top, generally by means of gold clasps and pins, and that they wear full trousers, and often, as do the men sometimes, have gashed sleeves hanging down from the overall (*pl.* 80, *figs.* 1, 2, 10). The unmarried girls wear close-fitting leather chemises until their marriage, the husband being the first to open them. They also wear the hair free, plaited into a queue; the married women, on the other hand, wear veils (*pl.* 80, *figs.* 1, 2), and all women when they appear in public are wrapped in long veils.

The head-wear is either a fur hat, often very broad, with a woollen cover (*pl.* 80, *fig.* 3), or a melon-shaped felt cap (*pl.* 80, *figs.* 10, 11). The peculiar high felt caps (*pl.* 80, *fig.* 9) are much worn in the high mountains. Among the Imeritians and the Georgians we find a small, black, embroidered cap (*pl.* 80, *fig.* 7), which is secured under the chin by a band. Cloths over the head are also much worn (bashliks), like those of the Tcherkesse, Plate 80 (*fig.* 11, at the left), except that here it is of wire as a sort of helmet.

Ornaments.—They have a variety of ornaments, many being very handsome, particularly ear-rings (*pl.* 80, *fig.* 5) and brooches of solid gold or filigree-work. Sometimes they have shoes (*pl.* 80, *fig.* 10) like those in Japan. It is evident that their costume is merely slightly modified from the Mongolian; that of the Turcoman on Plate 72 (*fig.* 5) is entirely Mongolian, and the peculiar feature of the Caucasian costume, the double coat, is also Mongolian.

Social Life.—The Mohammedan is the prevalent religion in Daghestan; polygamy is therefore allowed, but among the people it is rare on account

of the expense, and among the Christianized nations of course it does not exist. It is a curious custom that a married man does not like to be found in his wife's company, and does not speak of her or of his children; this indicates that here also the women were originally held to be less holy than the men.

Dwellings.—The dwellings stand in circles or in parallelograms, and in such a manner that the inner space forms a common farmyard with only one exit, while each house has a door and a window facing externally. They are of one story, made of twisted work, covered on both sides with clay, and the beam roofs are covered with grass. The men live by themselves, and the house of the prince is apart from the ring (*pl. 80, figs. 10, 11, background*). In their frequent wanderings they build conical-shaped tents, which they cover with grass, or they use portable felt *yurts*.

Near the villages on the mountain-tops are burial monuments—square-shaped stone buildings, with a wooden pillar fashioned into a head on each corner, the rude mementos of the dead. The graves of the princes are larger, and consist of hexagonal or octagonal buildings like chapels, standing in a row together (*pl. 80, fig. 6*). Sorrow for the dead is shown by loud lamentations and by painful wounds which the survivors inflict upon themselves.

Weapons.—The weapons were in early times the bow and arrow, the former with the same case-like covering as among the Turcomans; the latter worn in a quiver on the right side, over which a many-colored piece of stuff hangs as a covering (*pl. 80, fig. 11, left*); heavy, club-like staves with iron heads (*pl. 80, fig. 11, right*); a dagger-like, strong knife worn in the belt at the front of the body (*pl. 80, fig. 11, left; fig. 3, left*); and at the left side a large curved sword, this, like the dagger, being without hilt-guard, but often ornamented in a costly manner (*pl. 80, figs. 3, 11*).

In ancient times, and to-day in the highlands, as among the Cheisurs, the men wore coats of mail made of chain reaching as far as the hips, and iron helmets like the Tcherkesses (*pl. 80, fig. 11, left*). These also sometimes wear a white woollen jacket over the coat of mail. The riding whip in the left hand is evidently derived from the Turks. European weapons are now coming into use throughout the country.

Government.—The original form of government was like that of most of the Mongolian states: the prince stood high above the people; then followed the nobility, then the peasants, who were either vassals or adscripts. Between the nobility and the peasants a class of freemen has arisen who have received freedom from the nobility. The prince was all-powerful, having command over life, limb, and property of his subjects; the peasants were similarly subject to the nobles. This arose from the Mongolian view that the higher classes stand nearer to the gods, and therefore alone have full privileges. Revenge by blood-shedding prevails everywhere, but may be bought off with money.

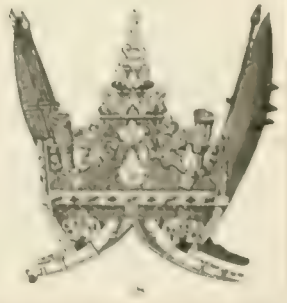
Religion.—Of the original religion of the Circassian people little is left,

and this little is best seen among the mountain-tribes who call themselves Christians, like the Chetsurs. They have one supreme god of war, from whom proceed numerous others, Christian and heathen: the earth is holy, and their two "gods of the west and east" seem to indicate some old worship of the heavens; their "god of spirits" refers to a former ruler of the lower world; moreover, they believe in protecting spirits and in gods of nature of all kinds; they have holy groves and countless superstitions; in short, they stand in their heathen religious views, so far as we can follow them, very near to the Mongolians.

In character they are indolent, particularly those in the plains, yet fond of war, violent, and revengeful, but with certain chivalrous traits; and their hospitality and love of drinking-bouts are well known. They have nothing to show in art, but their literature, which is mostly oral, possesses many pretty epic legends and short lyric poems.

This description gives the principal features of the national life of the Caucasian people, and is true, in general, of all the races of the mountain-country with their many dialects. Where Russian dominion has repressed the constant wars of the mountain-races and has opened up the previously pathless highlands, European culture has entered and brought numerous changes.

From our description of the various peoples whom we call Mongolians it is clear that they make one great family. Costumes, houses, weapons, manner of living, government, religion, treatment of the dead, and belief in the future, are so surprisingly alike that we are justified in pronouncing them *one and the same stock*.



INDO-CHINESE.—1, 6, Burmese. 2, Palace of Anantapada (Buddhist temple) on the west side of Ava. 3, Warriors, Dragon temple (Ava, Birmah). 4, Head of the Burmese woman, Maphoon. 5, Anantapada (Buddhist temple) on the west side. 6, 7, Anantapada. 8, Saddle of a war elephant.



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INDO-CHINESE. 1. Cochin Chinese. 2. Siamese at home. 3. Thai. 4. Malay. 5. 'New Market' in a pagoda of Nong Kay (Siam).



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INDO-CHINESE. 1. Laos of the North. 2. Laos man in uniform. 3. Mountain tribesman, with his children, belonging to the Laos nation. 4. Young Laos. 5. Lemet (Farther India). 6. Laos people, from the Bernam district. 7. Laos habitation.



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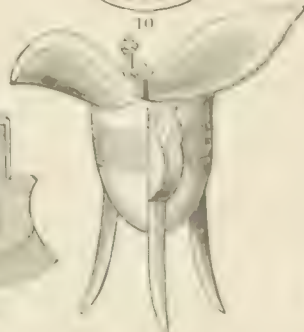


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INDO-CHINESE. 1. Emperor Kien-Lung, in an actor's costume (1790). 2, 3. North Chinese. 4. Chinese official (1840), from an original painting. 5. Chinese actor in a theatrical part. 6. Chinese night watchman. 7. Mandarin in court costume. 8, 10. South Chinese. 9. Chinese bridge of assault.



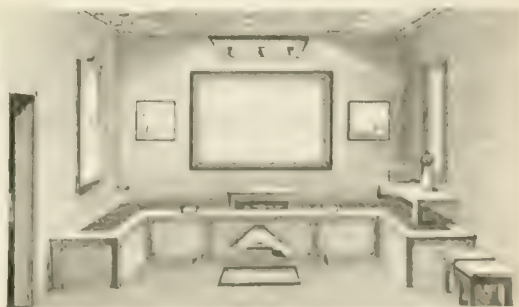
INDO-CHINESE.—1. People of South western China. 2. Chinese burial place. 3. Customs and people of Southern China. 4, 5. Chinese helmets. 6. Bow case; 7, 9, 11. Battle-axes; 8. Mace; 10. Ancient weapon; 12. Vase; 13, 14. Swords—all of the dynasty of Chow (1123-255 B.C.).



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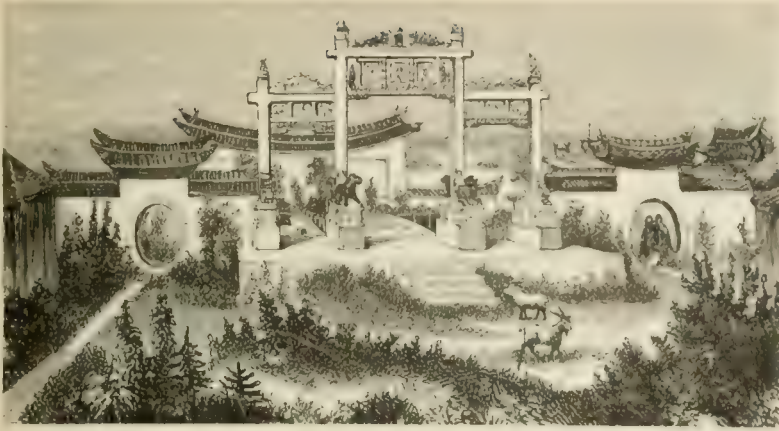


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INDO-CHINESE. — 1. House of a Chinese merchant in the city of Canton, China. 2. Reception room of a wealthy Chinese family. 3. Sleeping apartment of a noble Manchoo family (Manchuria, China).



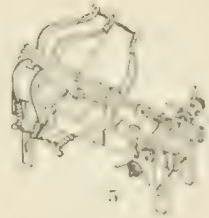
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INDO-CHINESE.— 1. Entrance gate of the pagoda of Sensoo (Malacca Archipelago). 2. Chinese official. 3. Chinese and people of Southern China. 4. Chieftain from Liu Kiu (Loo-Choo Islands). 5. Catalogue of the Chinese, Koreans, and Japanese. 6. Priest and nobleman of the Liu Kiu Islands.



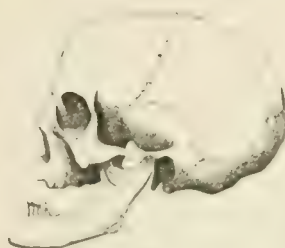
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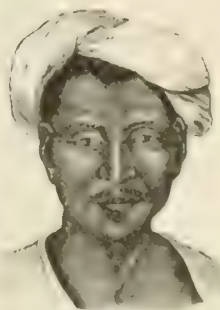
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INDO-CHINESE.—1. Chinese warriors of ancient times. 2. Lamas of Lushui (Lushui). 3. Lushui and Lushui (with their religious articles) of Sikkim, India. 4. Lapsha skull (to the left of Sikkim, India, and women of Sikkim, China). 5. Bhoti skull. 6. Men of Pin (Sputi, India). 7. Mountain inhabitant of Farther India. 8. Women of Khammar (Himalayas).



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URAI AFFAIRS.—1. Japanese boy, 2. Girl, 3. Woman, 4. Man, 5. Japanese woman in full dress, 6. Japanese in court attire, 7. Japanese in festive dress, 8. The Akedo, 9. The Kudo.



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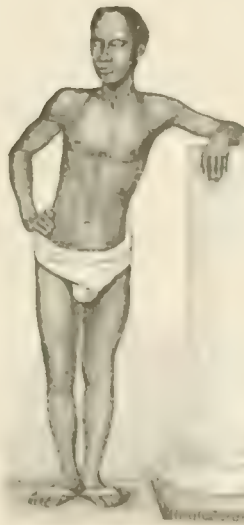
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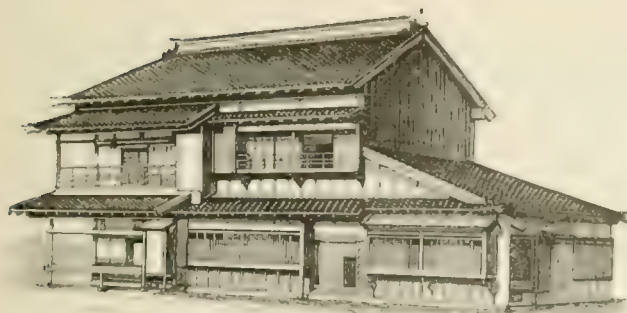


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URAI AFFAIRS. 1. Japanese man; 2. Pilgrim; 3. Young woman; 4. Japanese woman; 5. Japanese temple; 6. Japanese (man) of the middle class; 7. Japanese peasant in straw hat; 8. Japanese peasant; 9. Japanese coolie; 10. Japanese priest.



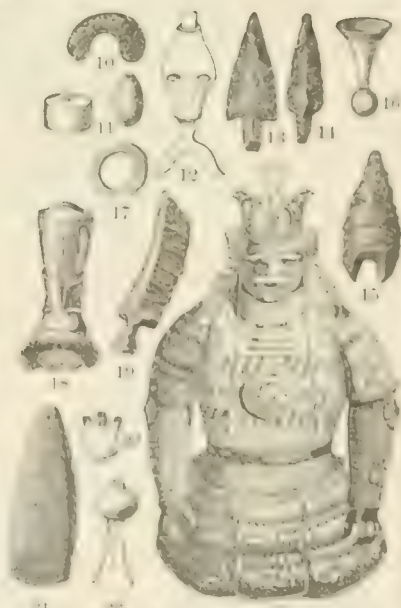
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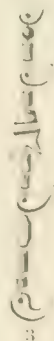


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URAI ALIARS. House of a Japanese nobleman. 1, 2, 3. Various weapons. 4, 5, 6. Various weapons. 7, 8. Japanese nobleman. 9. Japanese nobleman on horseback. 10. Japanese nobleman on horseback. 11, 12, 13. Various weapons. 14, 15, 16. Various weapons. 17, 18. Various weapons. 19, 20. Various weapons. 21. Various weapons. 22. Various weapons. 23. Old Japanese armor (of Dai sōji)—all of the earliest period of Japan.



URAI ARTIFACTS: 1. Japanese family at their meal in mid-19th century; 2. Leaf of a pine cone; 3. 6th c. Haniwa (Clay); 4. Magatama chain of an Aino chieftain; 5. River boat of the Ainos; 6. Boat of the Samoyeds (Siberia); 7. Gutar; 8. Ornamented box, of the Ainos.



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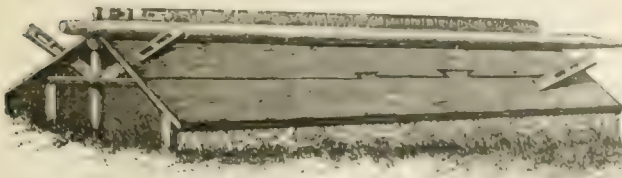
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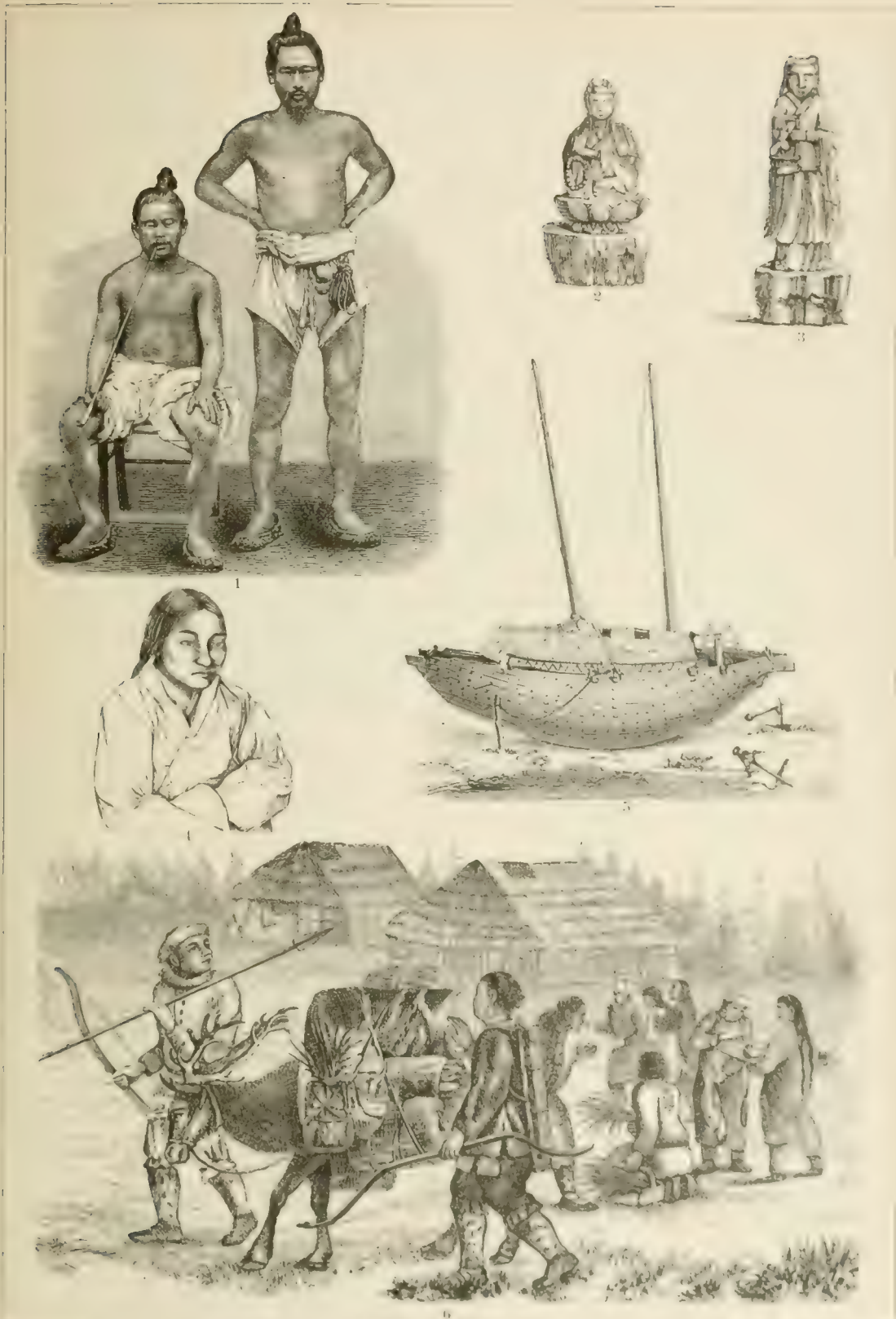


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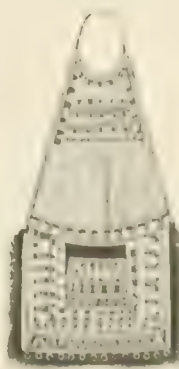
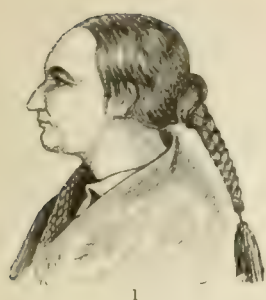


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URAL ALTAICS. 1. Amos and then habitation. 2. Amos celebrating the Green Feast. 3. Amos and his wife. 4. Gilyak (Amos) in full costume. 5. Korean sage. 6. Nobleman of Corea. 7. Merchant of Corea.



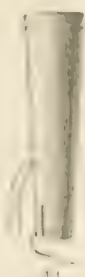
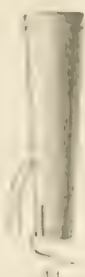
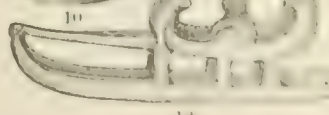
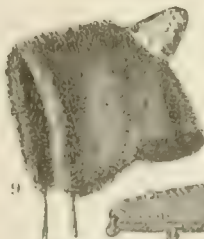
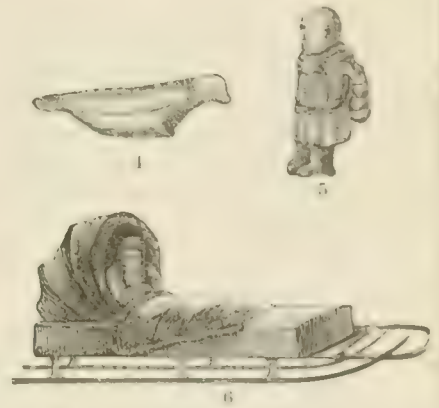
URAI AFFAIRS.—1. Koreans. 2, 3. Korean guardian deities, dolls. 4. Young Korean woman. 5. Korean junk. 6. Inhabitants of the Saghalin Island: Orotskos (eastern branch) and Sincereans (western branch).



URAI ALTAICS. 1. Tungus (Upper Enkhel). 2, 3. Tungus (Lower Enkhel). 4. Tungus (Central Siberia). 5. Tungus (Central Siberia). 6. Hood. 7. Collar. 8. Belt ornament. 9. Parka, of the Tungus.



URAL ALTAICS. 1, 2. Burats of Olkhon Island (Lake Baikal). 3. Lapp, from the Siberian Expedition of General Ad. 4. Burat woman in full dress. 5. Siberian felt. 6. Siberian tent. 7. Interior of a Chinese tent. 8. Grave monuments on the steppe between the Don and Dniester. 9. Calmuck skull. 10. Head of the Calmuck.



URAI AFFAIRS. — 1. Male and female Calmucks (Central Asia), wool-pelt, with ornamented belt, and sword, of the Chinese. 2. Yakoots (Siberia). 3. Yakoot woman in full dress. 4, 5. Carvings of whale teeth, of Central Asiatic, from Turkestan. 6. Pantaloons (top piece) of the Yakoots. 7. Under-trunk of the Yakoots. 8. Hat of the Yakoots. 9. Tobacco-box. 10-13. Carvings of whale teeth; 14. Pantaloons (lower piece) of the Yakoots.



URAL ALTAICS.—1. Village of the Yakouts (Siberia), to the right, a small tent, to the left a wooden cabin (Russia).
2. Kirgheez sultan and family. 3. Kirgheez (Cossacks), two Princes to the right.



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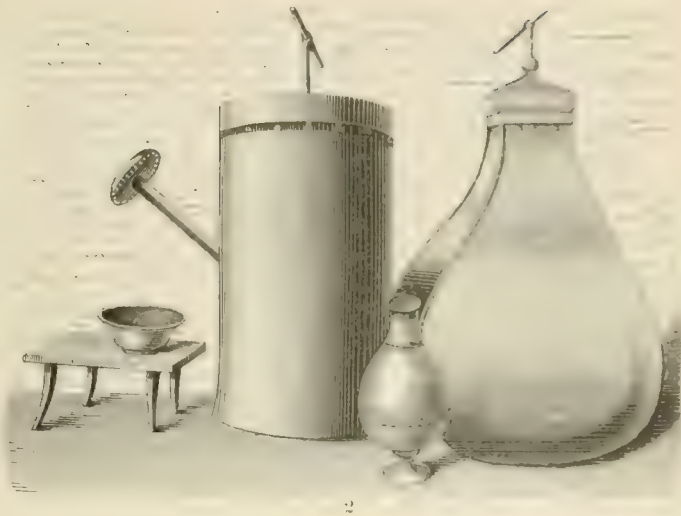
URAL ALTAICS.—1, 2. Turks (Tatars). 3. (Pictorial). 4. Teller of tales (Tatars). 5. Warrior (Tatars). 6. Serbian story teller (placed here for comparison, see page 34). 7. Tatars (Tatars). 8. N. women; in the background a tent settlement of the Nogais (Tatars).



URAL ALTAICS. — 1. Son of the khan of Khiva (Turkestan). 2. Noble from Khiva. 3. Man from Crimea; in the background (to the right) their dwellings, and (to the left) the entrance to the city. 4. Woman with curious head covering (European Russia). 5. Noble Tartar (Crimea). 6. Russian from Crimea. 7. Monument of the Crimean Tartars. 8. Calmuck sacrificial monument, made of the skulls of horses. 9. Kurd woman.



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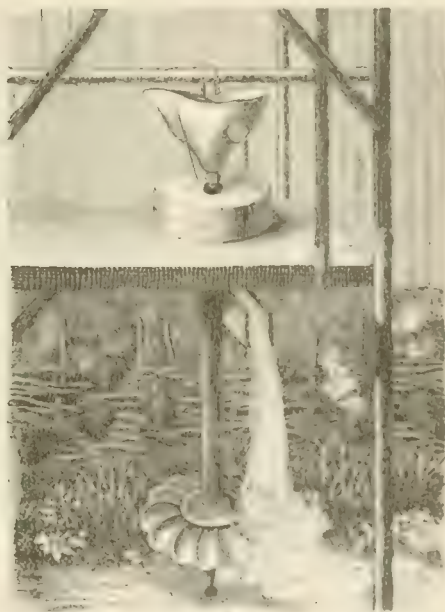
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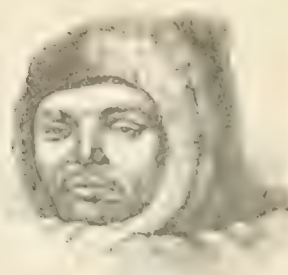
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URAI ALTAICS.—1. Women of the Kazan (European Russia) Tatar dress. 2. Large metal vessel, like a mill, with a long handle. 3. Woman of the Bashkirs (East European Russia). 4. Woman of the Bashkirs (East European Russia). 5. Mill of the Bashkirs. 6. Samoiéd woman (Siberia). 7. Samoiéd child. 8. Samoiéd child. 9. Head of a Samoiéd, showing the hair.



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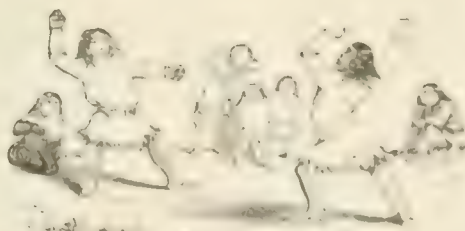
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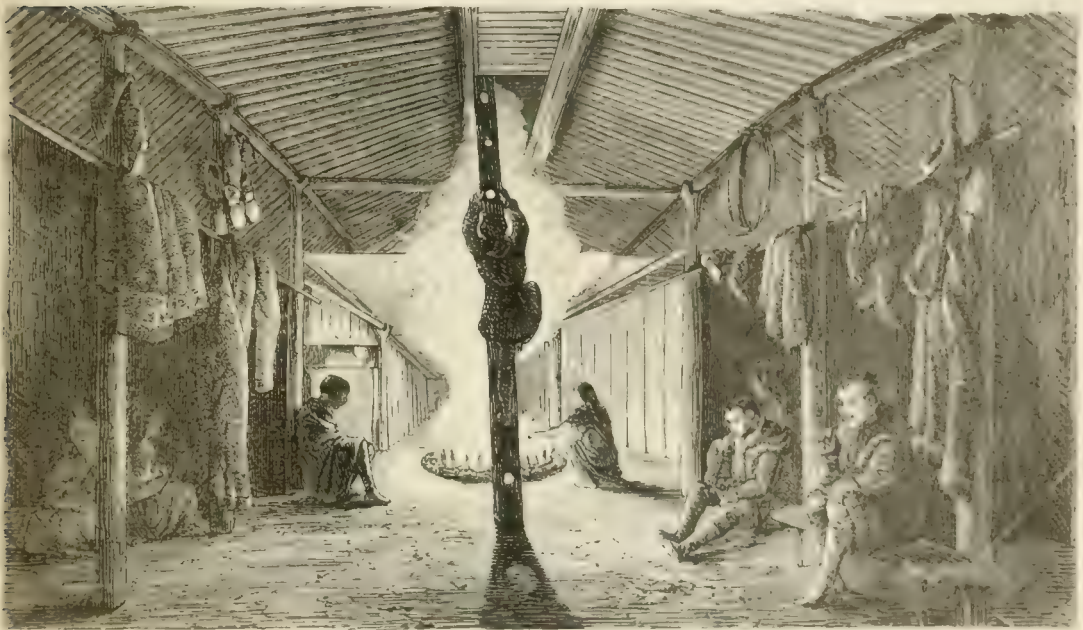
URAL-ALTAICS.—1. Lapps (Lapland), with their dwelling to the right. 2. Finn (Lapland). 3. Finn (Lapland) with fur hood. 4. Finn woman in full dress. ISOLATED NORTH ASIATIC.—5. Chukchi (North-east coast of Asia) in dress. 6, 7. Ostyaks (Western Siberia). 8. Ostyak dance.



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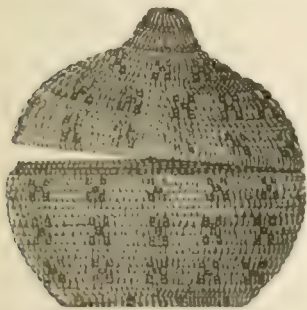
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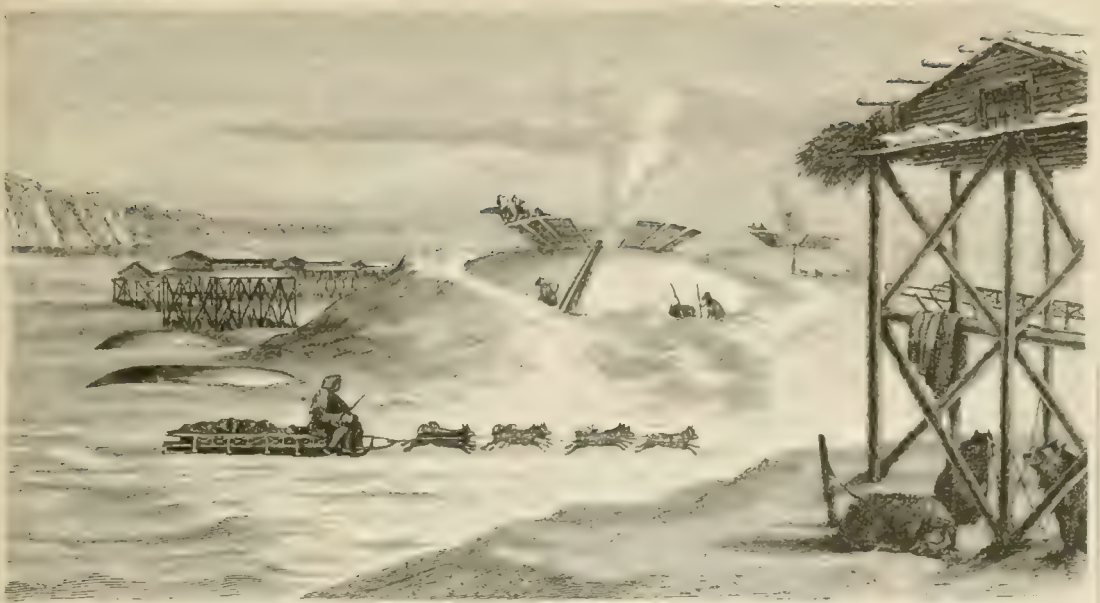


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ISOLATED NORTH ASIATICS. — 1, 2. Nomadic Koryaks (North eastern Siberia). 3. Interior of a Koryak dwelling. 4. Spear; 5. Case for spear point, of the Koryaks. 6, 7. Baskets of the Koryaks. 8. Small bag of the Koryaks.



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ISOLATED NORTH ASIATICS.—1. Village of the sedentary Koryaks, North-eastern Siberia. 2. Fur glove. 3, 4. Belt decorations, of the Koryaks. 5. Knife of the Koryak women. 6. Sedentary Koryaks. 7, 8. Pipes of the Koryaks.



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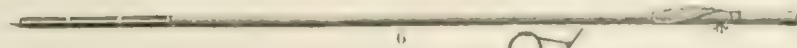
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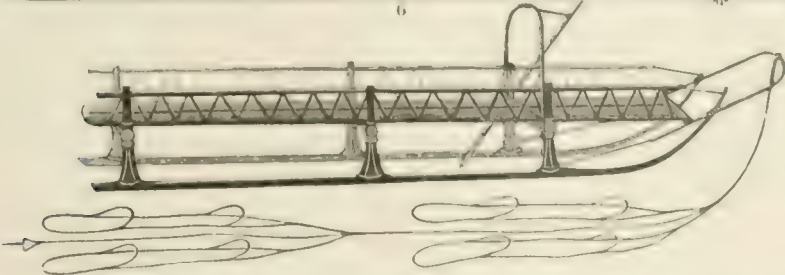
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ISOLATED NORTH ASIATICS. — 1 Village of nomadic Koryaks. 2 Knife. 3 Scabbard, of the Koryaks. 4 Nomadic Koryaks. 5 Inhabitant of a village of Northern Kamchatka (Koryak). 6 Steering pole. 7 Sledge, of the Kamchatkans.



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ISOLATED NORTH ASIATICS.—1. Kamchatkan. 2. Winter hut. 3. Summer hut. 4, 5. Kamchatkans in full dress.



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CAUCASIANS. — 1. Swane woman (Southern Caucasus). 2. Circassian woman (Western Caucasus). 3. Chechen (Caucasus). 4. Snow shoe. 5. Ear ring, of the Swanes. 6. Royal tents of the Tcherkess. 7-9. Noble Swanes. 10. Noble Tcherkesses (Tartars). 11. Tcherkessian warriors, Tcherkessian habitations in the background. 12. Mingrelian woman (Southern Caucasus).

IV. THE DRAVIDIAN PEOPLES.

UNDER the general name of the DRAVIDIAN PEOPLES we designate the original inhabitants of Hither India who now have their dwelling-place in the south among the Aryan population, but differ from the Aryan Indians in speech, customs, and partly also in physical appearance. Skilled investigators like Latham and Max Müller have endeavored to prove that they belong to the Mongolian race; but the physical and mental character of this people is not Mongolian, and makes it impossible to accept this opinion. Still less can we agree with many of the older investigators who believe them to be connected with the black population of Malaysia, the Papuas. As, up to the present time and with our present inadequate means of research, we cannot place them in any of the great ethnological divisions, we are compelled, in spite of their relatively small number, to class them apart as a separate race. It is possible that future investigations will lead to a different result.

Classification.—These original inhabitants of India are divisible into two distinctly separated groups: (1) the Vindhya People; (2) the Deccan Tribes.

From the latter another folk has branched off in such an independent manner that we should be wellnigh justified in naming them as a third division—viz. the inhabitants of Ceylon (Singhala), the Singhalese, to whom the natives of the Maldives are joined as most nearly related, while the Laccadives are inhabited by the *Moplays* or *Mapilas*—Arabian merchants who have come over from Malabar.

We prefer the names just given to these chief divisions of the Dravidian Peoples: first, because they are older than others—we find them in Lassen, one of the greatest German students of India; secondly and principally, because they give a sort of key (when we consider their geographical meaning) to the history of the stock and its different tribes; and lastly, because they are most comprehensive and least liable to be misunderstood. Other ethnologists call the Vindhya people Munda people (*munda* means, among some of them, a chief or headman of the village), and the Deccan tribes the Dravidians in a more restricted sense.

The Vindhya people are themselves divided into several tribes: first, the *Bheels*, whose present location is the western part of the Vindhya Mountains and their outlying spurs as far as the Taptee. They likewise inhabit the Western Ghauts on the land side to Puna, on the coast to Daman, as well as the mountains of Gujerat. Formerly they extended farther toward the north, whence they gradually became confined within their present limits, while many of them mixed with the Aryan Indians. They are split up into many tribes, of which those of pure blood call

themselves the White Bheels, while those who have intermarried with foreigners are called the Black Bheels. To them seem also to belong the *Ramusis*, south from Puna, who now speak Mahrattée, and the *Kōlas* (Kulis) of Gujerat, who have likewise adopted an Indian speech. Also, the *Minas* and the *Meras*, northward in Mevar to the Aravulli Mountains, seem to stand nearer to the Bheels.

The *Kōlas* are an extensive tribe in the easterly continuation of the Vindhya Mountains, in the mountain-land of Chota-Nagpoor west from Calcutta, north almost to the Ganges and south nearly to the Mahanadi. The Indians call all the races that live here *Kolhs*, and so this general title includes first the *Munda Kolhs*, who, perhaps a million in number, are the most important tribe; the *Lurka Kolhs* or *Ho* (*i. e.* "man"), west from the Mundas in the district of Chaibassa; north to the Ganges we have the *Santals* and smaller clans of doubtful descent, like the *Aharrias*, etc.

The people of the Deccan are mingled in the east with the Vindhya people, while scattered among the Kolh races are the (1) *Urahs* (Uraon), westwardly from the Santals, and (2) the *Paharias* (Rajmahal Kolhs—*i. e.* the non-Indians of the district of Rajmahal), or, as they call themselves, the *Maler*—*i. e.* mountaineers. But they principally live in Deccan proper. We also name (3) the *Gondas* or *Gonds*, the inhabitants of Gondwana, south from the Nerbudda as far as Godavery; also (4) the *Ahonds* or *Kandas*, Khunds, Kus, in Orissa, east from the Gonds, south from the Kolhs; (5) south from both tribes the *Telingas* (Telugus, Gentoos), whose domain in former times extended along the whole eastern coast of Hither India. Neighbors to these southward, and on the other side of a line from the north end of Lake Pulikat to Bangalore, are (6) the *Tamils*, who are scattered about over Cape Comorin and the north of Ceylon. West from the *Telingas* live (7) the *Canarese* (the Carnatic) in Canara and Mysore, to whom in speech the *Kodugus* (Kurg) belong, several other mountain-tribes; and wedged in the Neilgherry Hills (8) the *Tudas* or *Todas*, who speak an independent tongue, as well as (9) the likewise independent *Tuluvas* or *Tulus*, settled on the west coast around Mangalore. In earlier times they were much more widely spread in Canara. The south point of the peninsula, south from Tuluvas, west from the Tamils, is inhabited by (10) the *Malabars* or *Malayalam*. Living quite separate are (11) the *Brahuis* in North-east Beloochistan around Kelat; and (12) the *Singhalese*, or inhabitants of Ceylon, certainly belong here, as their tongue, the Elu, and their many Indian traits, prove. The *Veddahs*, from the woody interior of the island, seem to be pure Singhalese.

Physical Characteristics.—We may consider together the physical qualities of the Vindhya and the Deccan people. We have first to remark that the wilder a people is, so much the more wild is the general outward appearance, and that in this respect the Paharias and the Gonds (both of Deccan descent) are quite similar to the Bheels of the Vindhya Mountains.

In general, they are only of middle size, as we find among the Bheels, the Kollis, the Paharias, the Khonds, the Singhalese (*pl.* 81, *fig.* 4), the Canarese, and the Malabars; but they are by no means weak, except in the worn-down tribes, who are small, but, on the contrary, muscular and extremely agile, having good proportions and trim bodies. Others are large, athletic, even herculean—as many of the Gonds, of whom, again, others are only of middle size; and further the Tudas, in the Neilgherry Hills, who are described as an athletic race, very well built, and nearly all six feet in height.

Color, Hair, and Features.—The color of all these races is a dark, Negro black, lighter among the women, and in some cases (as in many of the Singhalese) dark or light brown. The Paharias are of lighter color than the Bengalese. In spite of the color, these people are by no means like Negroes, as is proved by their bodily build and the abundant hair on the person, which often—*c. g.* among the Brahuis, the Tudas, and the Bheels—grows into luxuriant beards, as well as by the character of the hair of the head, which is fine, bushy, sometimes growing in locks, and among the women (*pl.* 81, *fig.* 10, Kolh woman) quite long. It is never woolly: the only statement given of woolly hair among the Gonds is of doubtful authenticity. It is almost always dark in color. The beard is often wanting among the Singhalese, the Khonds, etc. The formation of the skull and their features are by no means like those of the Negro, still less like those of the Mongolians. Jellinghaus properly calls them, even the Vindhya people, rather Aryan. The features of the northern Deccan tribes, of the Paharias (Hamilton) and of the Urauhis (Jellinghaus), are in every respect like those of the Vindhya; the nose is generally straight and thick at the point, the eyes dark and not oblique, lips full, the mouth not ugly, the cheekbone not prominent, and the face oval (*pl.* 81, *fig.* 10).

Another type is seen in the Tudas. According to Harkness, they have entirely European features, large, quick eyes, fine teeth, and Roman noses. They also have rather full lips (*pl.* 81, *figs.* 8, 9). The Telingas are an example of this type (*pl.* 81, *fig.* 3), also the Tamils (*fig.* 1). The more cultivated Singhalese show it, while the Veddahs stand nearer to the first type. There is no very essential difference between the two types—arched noses and a fine exterior may now and then be found among the Vindhya, while the Deccanees show the less handsome features that have already been described. The Malabars (*pl.* 81, *fig.* 2) may serve as an example. The majority of the Brahuis belong to the latter type. A disproportion in the limbs is often seen in these races. The arms and the hips are long, while the hands and feet are remarkably small.

Intermixtures.—We might imagine that this second type had arisen in consequence of the intermixture of Aryan blood. Of course frequent mixtures between the Aryan immigrants and the Dravidians have taken place, as the greater space covered by the latter in early times, as well as the many peculiarities of speech even in the Aryan tongues, goes to prove. Yet the forms as we find them to-day among the Dravidians certainly do not rest

upon such a mixture. Lassen properly remarks that with the introduction of castes into India the mixtures with foreign races were compelled to stop; and from the caste system it may be concluded that the immigrants from the very beginning had a strong aversion to the black and at that time savage people with whom they came in contact. Moreover, the Tudas, the isolated inhabitants of the highest Neilgherry Hills, living in a healthy climate and in general comfort, show the same Aryan type, although with them no intermixture has been possible: the same is true of the more refined and better-situated inhabitants of the cities in the plains; while, on the other hand, the wild tribes of the Deccan as well as of the Vindhya depart more and more from these handsome forms. Accordingly, the opinion is a justifiable one that the physical nature of these as of all nations improved when their exterior life and their mental culture were bettered. The Tamils, Telingas, Canarese, and Malabars—in short, all the more refined Deccan people—have adopted the Indian culture, religion, and customs, and their speech has been greatly influenced by the Aryan idioms.

Language.—As the two main divisions of the Dravidians are thus shown to have been originally connected, and the differences in body were brought about later by a varied manner of life, we may say the same of their languages. The Deccan and Vindhya tongues are alike in structure, but quite different as regards verbal roots, though even these have certain important points in common. At one time they did not distinguish between substantive, adjective, and verb—a distinction which now is recognized in all the Deccan idioms. Our declension is supplied by a number of formative syllables, and the conjugation in both divisions of the Dravidians is accomplished by suffixes. Yet the verbal form nowhere rises above the attributive relation.

The true life of the language is seen in the pronouns. It is an important difference that the Vindhya tongues have a dual of these latter, while those of the Deccan either do not possess it or have it only by means of a paraphrase. They correspond in the difference between the exclusive and inclusive plural—*i. e.* both have forms for “we” inclusive and “we” exclusive of the person spoken to. The most important difference in the structure of the language shows itself in the gender. While the Vindhya tongues distinguish only between that which has life and that which has not, and make the distinction a general one, the Deccanees have in the “high” and “low” gender of the Tamil grammarians—of which the former includes all beings with reason, and the latter only beasts and inanimate things—apparently the same trait, only expressed with a different scope. The Deccanees also express in the “high” gender the distinction between masculine and feminine, confined, however, to pronouns (demonstrative) and to those pronouns which form the conjugation of the verb. This distinction is seldom applied to the substantive, but it is mostly confined to the pronoun, which is affixed to the descriptive word in masculine or feminine form. It cannot be regarded as

fundamental, for the grammatical gender has been developed out of the distinction between animate and inanimate objects. Thus the gender in the Deccan tongues may have arisen independently from the old foundation that the Vindhya people have preserved, or, as is more probable, in consequence of the influence of the Aryan tongues, which have throughout such marked difference in gender.

A critical examination of the Dravidian languages shows the likelihood of their having developed out of one ancient common stock. The Vindhya idioms have kept to the older and more undeveloped standard, which is not surprising when we consider their history and degree of cultivation. The Elu (Singhalese) is not so nearly related to the Deccan as regards roots, but is similar in the spoken form. It is therefore to be regarded as a peculiarly developed branch of the Deccan idioms.

Costume.—The clothing of all these tribes is entirely Indian (*pl.* 81, *fig.* 1). Among the less cultivated it is very simple, consisting of a cloth worn around the hips like a gown; both sexes among the Singhalese have it so (*pl.* 81, *fig.* 4), while among the Bheels and the Kolhs the men wear only a small loin-cloth. The wealthier have a cloak around the shoulders, which is sometimes a mere cloth (among the Kolhs, the Tudas, the Khonds, the Paharias, etc.), and sometimes, as among the Singhalese, a kind of jacket (*pl.* 81, *fig.* 4, 8, 9).

Hair.—The hair is worn mostly in a knot on the crown or back of the head with manifold ornaments, and generally held in place with a long zinc comb; some tribes, as the Tudas (*pl.* 81, *figs.* 8, 9), the Kolhs, and the Bheels, wear it free, the wild tribes often paying no attention to it. We see divers coverings for the head on Plate 81 (*figs.* 1, 5, 6).

Jewelry.—Ear-rings and necklaces (*pl.* 81, *fig.* 10) are popular ornaments; the former are worn in the edge of the ear, which is pierced (*pl.* 81, *fig.* 10), or, together with plugs, small pieces of wood, etc., in the ear-lobes, which are often greatly enlarged (*pl.* 81, *fig.* 10); and even the civilized Deccanees have adhered to this custom (*pl.* 81, *fig.* 1). Metal bracelets and anklets, oftentimes very heavy, are also prized. The weapons of those branches which have not become Indianized consist of bow and arrow, axes, shields, and slings.

Dwellings.—Their dwellings consist of neat frame huts united into villages. Only totally barbarous tribes, such as the Veddahs, plait their temporary huts of the twigs of trees, or, when occupying a somewhat higher rank in civilization, make them of pieces of tree-bark.

Agriculture and Stock-Raising are the principal occupations of the nations not completely uncivilized, such as the Kolhs, the Tudas, etc. Cattle, buffaloes, hogs, goats, and sheep constitute the wealth of the shepherd peoples. The Tudas, for instance, in the Neilgherry Hills, keep principally buffaloes and sheep: the simple vehicles of the Singhalese and the manner in which they use the elephant, their ordinary domestic animal, are shown on Plate 81 (*figs.* 4). The entirely barbarous tribes

lead a wild and miserable life of hunting and robbing in their woods and mountains.

Food and Drink.—The Dravidians are fond of spirituous drinks, and have some of their own invention and manufacture. Originally, they ate everything, even carcasses, and this is still done by some nations. Others, through Indian influence, abstain from the flesh of certain animals, especially cattle. The Kolhs have received their name—which in Indian is a collective name for many tribes—from the Indians because they kill and eat swine; for Kolh signifies swine-killer (Jellinghaus).

Naval Architecture.—The boats of the Singhalese merit special attention (*pl.* 81, *figs.* 5, 6). In the south of the island all of them, large and small, are supplied with a boom, and only wooden nails are used in their construction; they are frequently turned up alike on both ends, in which respect they are similar to the Malaysian vessels. The Singhalese carry on coast navigation only, and are averse to undertaking long voyages on foreign vessels; while, on the contrary, the Telingas, Tamils, and Malabars willingly serve as sailors and make long sea-voyages.

Domestic Life.—Woman occupies no poor position among the Dravidian peoples: according to Jellinghaus, she is called mistress of the house among the Kolhs, the husband being termed the master of the land; and, although she always addresses her husband by the name of master, great love and mutual consideration prevail among them.

Marriage.—Marriage is contracted with numerous ceremonies, at which the groom, who must always be from another community, gives rich presents to the father-in-law. Before marriage both sexes live in perfect liberty, but adultery is severely punished. However, matrimony is easily dissolved. Bigamy is practised in some cases. The second wife is considered lawful, and is married with the usual ceremonies, and her children enjoy the same rights as the children of the first marriage. But the children of concubines, generally widows whose connection with another man is not considered scandalous, have inferior rights to those of the legitimate wives.

Their marriages are usually fruitful. The mother and her new-born child are deemed unclean until they are freed, after the lapse of eight days, from the interdiction, when the child is solemnly received into the tribe and is named, usually by the grandfather and with his own name. Abortion is practised, but is considered a crime. This description—most of which we have taken from a report of Jellinghaus about the Kolhs—applies closely to all Dravidian peoples, only that the more barbarous tribes are of course more barbarous also in this regard; as, for instance, the Tudas kill most of the female children after birth, and, furthermore, polyandry prevails among some peoples of South Deccan (Malabars, Kurgs, Tudas) and the Singhalese. As in the north, children at an early age are betrothed to each other, and here also unrestrained licentiousness prevails before marriage. In cases of polyandry the husbands of the wife are generally brothers, to whom the children belong in common. It is easily

understood that in such institutions rank and property are inherited by female lineage. Nevertheless, here also the women are considered less holy than the men, and they are not allowed to enter the sacred places of sacrifice.

Government.—The constitution is alike among all the Dravidian peoples. It is patriarchal, each village community having an elder, and where there is a union of several tribes one tribal chief is at the head of it, which dignity is hereditary in one certain family. This village elder is called *munda* among the Kolhs—a name occurring also among the tribes of the Deccan, though changed somewhat in form and meaning. In former times these chiefs seem to have had a religious character also, at least some scattered customs appear to indicate this, and everywhere they exercise a despotic power.

The more barbarous of these peoples are divided into very many single tribes, the number of which is constantly increased by quarrels arising in the tribes, for the quarrelling parties separate and form independent clans. Among the settled agricultural Dravidians several of these clans are under the jurisdiction of one superior chief. Blood-revenge and joint responsibility of the family for one of its members prevail among these different communities. It is strange that in many districts, and even among the Hindoos, the Dravidian tribes are considered to be the true owners of the country; consequently, the Indian rajahs on the western side of the Vindhya Mountains must, on ascending the throne, make on their forehead the *tikor*—that is, a mark with blood taken from the toe or the thumb of a Bheel or a Mina.

The Tudas have a similar character in their districts; both of which are evidences that these tribes were once the dominant nations.* However, the caste spirit has gained entrance among the Dravidians, prevailing, for example, in Malabar, in Ceylon, and among the Hindooized peoples of the Deccan. The Tudas are peculiar in this respect also, for their arrangement of castes seems odd and reminds us of the different ranks of Polynesia.

Religion and Superstition.—The present religion of the civilized Deccan peoples is Brahmanism, which in its rudest form has also been accepted by the Bheels. Mohammedanism has also followers among them, at least nominally. The Tamils and the Singhalese are Buddhists. The latter preserve in the temple of Kandy as a sacred relic a bit of ivory, the famous sacred tooth of Buddha. Plate 81 (*fig. 7*) shows the "tooth," with the cord on which it is horizontally suspended in a precious reliquary. However, many nations, and even those which are Brahmanized, have retained in many customs their original religion, which venerates the principal powers of nature, as the sun (Kolhs) and the earth (Khonds), of which their conceptions are not wholly material.

Thus, according to Jellinghaus, the Kolhs, among whom there is no trace of a sun-cult, worship the Sing-Bonga—that is, "sun-god"—as the creator of the earth, the sun, and all things, as a constant guide, sustainer,

and supervisor of the world. They also fear and venerate a number of more or less powerful demons, spirits of the elements, who have their seats in the water, and especially in trees and sacred groves. To these spirits they bring offerings consisting of animals, fruit, etc.; the Khonds offer human sacrifices to the earth in thanksgiving or propitiation, accompanied by wild festivities, but the victim must never be of their own tribe. They celebrate religious feasts at the times of sowing and harvesting and on other occasions.

Sacrifices, Priests, and Idols.—The sacred groves are the places of sacrifice; the sacrificers are established priests—the pahans among the Kolhs, the pekkans among the Tudas—whose dignity is hereditary, and who originally constituted a distinct caste, and do so still among the Tudas. Among the Kolhs this is now modified. The family of the village priest is deemed next in rank to that of the chief, yet the pahan can transfer his dignity to some other person, and consequently to another family. Idols occur rarely, and are generally of Indian origin. Besides the priests, there are magicians, who are possessed of different powers and who perform their magic in the manner of the shamans. They make weather, discover hostile magic, and above all cure diseases, which are always attributed to evil spirits.

Death and Burial.—One tribe of the Gonds is said to murder and eat old or sick relatives in order to become agreeable to the gods. Care is scarcely anywhere given the sick, on account of fear of the evil spirits of the malady. The treatment of the dead varies: everywhere long and loud lamentations are indulged in, and the bodies are generally cremated, the bones and ashes being preserved. Costly banquets and dead-offerings, which often exhaust the wealth of the survivors, are associated with the funerals. The Kolhs (Jellinghaus) and some other nations inter the ashes in a common cemetery in family tombs formed of four erect flagstones covered with a fifth. These cromlech-like stone houses are believed to be the abodes of the souls, and frequently, though not always, have a hole in the wall for their entrance and exit (*pl. 81, fig. 11*). In memory of some of the dead, lofty, towering stones are erected at desirable places. Other tribes, as the Bheels, bury their dead, but this custom is far less frequent. They believe in the future life of the soul, as is shown by their dead-offerings.

Intellectual Faculties and Achievements.—If we now cast a glance at the achievements and intellectual peculiarities of the very interesting Dravidian nations, we shall at once have to acknowledge their intellectual abilities. First of all, their languages frequently exhibit a finely-developed intellectuality, and wherever they have come in peaceful contact with civilization, whether Indian or European, the Dravidians have proved themselves able to adopt it and in due time to assimilate it. At present they contribute greatly to the civilization of India, and by the spread of Buddhism from their centre, Ceylon, they have also assisted in the civilization of Farther India. The Tamils especially stand in the

first rank: they have a domestic literature which is worthy of notice, and have developed a language of poetry by the side of that of prose. Some of the other Deccan nations exhibit at least the beginning of a literature.

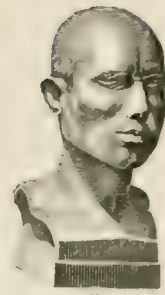
Their artistic achievements amount to very little. It may be mentioned that they are fond of the dance, which, however, is mostly ugly and wild and often indecent and lascivious. Their character is variously distinguished. They are warlike and brave, and are valued as good soldiers; they are, on the whole, chaste and abstemious, active, merry, and cheerful; they love truth and are honest. Neither is hospitality absent, nor a certain mildness of character. We need not be astonished that laziness and uncleanness, great barbarity and a thievish character prevail among some degenerate tribes; neither must we be surprised to find dissoluteness, especially among the younger people even of the more civilized tribes. But on the whole they must be numbered among the most gifted and most elevated of the peoples in the natural state. This is shown by the zeal with which many of them accept Christianity.



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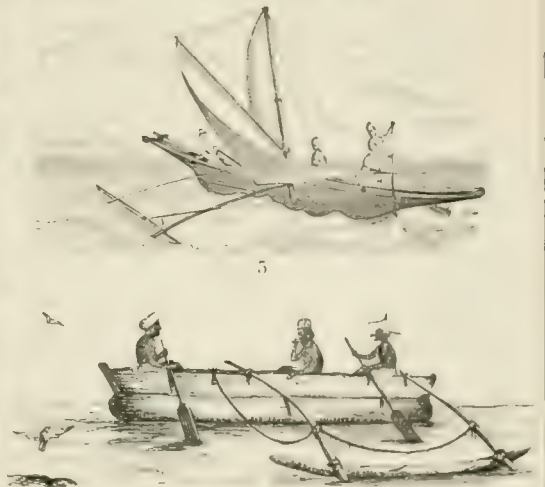
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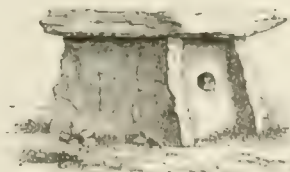
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VINDHYAS AND DECCANES. 1. Tamil (Cape Comorin). 2. Native of Cranganore (Hither India). 3. Native of Nelpi (on the Godavari River, India). 4. Sinhalese of Ceylon. 5. Ship of Ceylon. 6. Skiff of Ceylon. 7. Sacred tooth of the Kantis (Kandi, Ceylon). 8. Toda man. 9. Toda woman (Neigherry Hills, India). 10. Koli woman. 11. Cromlech of India. 12. Koug woman (Vindhya Mountains, India).

V. THE ARABIC-AFRICAN RACE.

THE ARABIC-AFRICAN race comprises a number of branches, which we shall divide into the following groups, starting from the south—that is, from the extreme point of their district: (1) 'The Koi-Koin (Hottentots and Bushmen); (2) The Bantu Peoples; (3) 'The Peoples of the Soudan (Negroes and Fulahs); (4) The Semites.

Geographical Distribution.—These four groups are geographically very distinct. The Hottentots occupy, or at least originally did, the south of Africa as far as the tropic of Capricorn or the 20th degree of south latitude; the Bantu peoples dwell north of them as far as the Equator, though in the west they extend beyond it as far as the Bight of Biafra; next follow the Negro nations occupying the broad zone from the Senegal along the southern edge of the Sahara far eastward into Nubia, and south along the coast of the Atlantic Ocean and from the mouth of the Niger to the Bahr-el-Abiad and the Great Lakes. What is then left of the north and east of Africa is occupied by the Semites, whose other division inhabits the Arabian Peninsula, Palestine, and Syria.

We shall now proceed to the ethnographical description of these branches, reserving to the end of the separate treatises what has to be said about them in common.

I. THE KOI-KOIN.

Peculiarity of Language Sounds.—The Koi-Koin are divided into two great families, the *Hottentots* and the *Bushmen*. Before describing this remarkable group it is necessary to speak of some strange sounds in their language, because they are indispensable in the proper names and other words which we shall have to use: we mean the so-called clucks, of which the Hottentots have four and the Bushmen about eight. They are uttered by pressing the tongue tightly against different parts of the mouth, and suddenly letting it loose as if taking breath. The tongue is pressed far back on the roof of the mouth for the cerebral cluck, more to the front for the palatal, on the incisor teeth for the dental, and between the teeth and the cheek for the lateral. European tongues have clucking sounds, but only as interjections, while with the Koi-Koin they are true phonetic elements. As they occur only as initial sounds, among the Hottentots only before *n* and the palatal sounds, and among the Bushmen also before the lip sounds, they seem to be secondary elements of speech. The other African tongues have nothing of this kind except where they have been directly borrowed from the Koi-Koin; as, for instance, in the Caffir language. We shall use the dental and lateral clucks; the former, which sounds like our interjections of displeasure, or like *ts* pronounced when

drawing the breath, we shall designate by the symbol (!), and the latter we shall indicate thus (|). But no one, after what has been said, will overestimate the ethnologic signification of these sounds.

Habitat.—The Koi-Koin, as all or most of the tribes belonging here name themselves in various idiomatic forms—the word is an iterative plural form and means mankind—dwell at present in South-western Africa to the east about as far as the Great Fish River, through the Karu and Kalahari Deserts north as far as the 20th degree of south latitude; but of course they are entirely driven from the district of Cape Colony.

North of them, on the 20th degree, dwell the Hau-Koin—that is, “genuine men”—who, as they speak and live like Hottentots, are not to be considered as fugitives of various descent, still less as dispersed Negroes, but must be numbered among the Koi-Koin, although separated from them by an interjacent Bantu tribe. They call themselves Damaras, and the Namaqua call them Mountain Damaras, or, scornfully, “Dung Damaras;” their language seems to have been independently developed, and, as they do not remember ever to have had any other, they probably are an independently developed tribe of the Koi-Koin, related to the Bushmen. Physically, they deviate from the Koi-Koin, inasmuch as they are black with a reddish tinge, but their stature and features are Hottentot.

Thus it can be said that at present the Koi-Koin inhabit the district of the !Gariap, of the Orange River, and the adjoining deserts. But it was different in former times. The names of mountains and rivers in East Africa, and also remnants of population, indicate, as some old maps correctly show, that they occupied East Africa even beyond Port Natal, into which district, at a much later period than the Koi-Koin, and from the north or north-east, the Caffirs, its present masters, migrated, as their legends narrate. Toward the north also the Koi-Koin had spread farther than we see them at present; and that they were powerful wherever they established themselves is shown by the great influence they have had on the language and customs of the Caffir people, and from the fact that the Caffirs look upon them as the first possessors of the country.

Racial Division.—The Koi-Koin are separated into two divisions—the Hottentots and the Bushmen. The latter name signifies “forest men”—that is, “apes,” ape-like human beings, as is shown by Fritsch. The name “Hottentot” is said to signify “stammerer,” and to have been given to the people on account of their clucking sounds. Both divisions, unquestionably related, though not very closely, are dissimilar in language, character, manner of living, and physical nature. According to a Hottentot myth, the first fathers of both lived together—the one a hunter, the other, though blind, yet able to distinguish animals of the chase from domestic animals. He outwitted the hunter, and forced him to go to the mountains, while he himself built his kraal. On the whole, this myth is probably right. At the time of the first discovery the Bushmen were already a degenerate tribe of hunters crowded in between

settled nations carrying on stock-raising, with whom for centuries they had lived in open enmity. They seem to have been the aboriginal inhabitants of South Africa, and were driven into the less fertile mountains by the Hottentots. Both came from the north, but the Hottentots, migrating with their herds, had by a secure sustenance greater power, and were enabled gradually to expel the Bushmen from the better hunting-grounds. Thus the expelled race sunk into want and misery, and in its efforts to maintain itself became involved in quarrels with all its neighbors.

The opinion which was formerly held, that the Bushmen were only degenerate Hottentots forced by poverty to become robbers, must be set aside as erroneous; though it is true that some scattered Hottentots or Caffirs have united with the Bushmen and have been compelled to lead a similar life.

Tribal Divisions.—The Bushmen are divided into many individual tribes, all of which figure among the Hottentots by the common name of *san* or *sagua*, both plurals of the masculine singular *sab*,—*san* comprising both men and women, and *sagua*, which is an emphatic form, only the men. The form *gua* or *qua* is generally used to designate individual tribes, as Nama-qua, Gona-qua, etc. The *Ubiqua* and *Susagua* mentioned by early authors are Bushmen, and the names *Sonqua* or *Soagua* are equivalent to *Sagua* (*sagua*), which term we frequently find applied to the hordes of the Bushmen. Kolbe, the first German describer of the Cape (about the year 1700), relates of these Sonqua, whom he mentions as a single tribe living on the Broad (Breede) River, that they are brave soldiers who serve everywhere as mercenaries, and that they also possess some stock, which they kill only with great reluctance.

Livingstone found tribes of Bushmen on the Chobe River (a tributary of the Zambesi north of Lake Ngami) who were a large, dark-brown, cheerful people in good circumstances. Furthermore, the name *san* probably meant originally only "the dwelling," sedentary people. Hence we come to the conclusion that the Bushmen originally occupied a higher rank than at present—that they were a courageous hunting people, who at some places had attained possession of herds and were established settlers, until they gradually succumbed under unfavorable circumstances. The individual tribes of the Bushmen speak unlike languages, though their deviations may have been originally only of a dialectic kind. This phenomenon is easily explained by the complete separation of the tribes.

The Hottentots were formerly divided into very many tribes: for instance, the *Goringhaiqua* (Caepmanns), the *Gorachouqua*, the *Cochoqua*, *Grigriqua*, from the Cape northward; still farther north along the western coast the *Little Nama* horde; more to the interior and west of the *Little Namaqua* (Nama and Namaqua are plural forms) the *Great Namaqua*, to whom belong the *Bundelzwarts*, the *Orlam*, and (the most northern) the *Tep-naar*; to the south the *Hessagua*, and the *Inqua* (Heikom) as far as Algoa Bay. Still farther to the east were the powerful *Gonaqua*, of whom but few remains are left on account of their fierce wars with the Caffirs; in the

interior, among many other tribes, the *Griqua*. The present *Griqua* have only retained an ancient name; they are a mixture of Hottentots, whites, Negroes, Caffirs, etc., and were formerly called *Bastaards*. They now live much farther to the west on the !Gariëp and Vaal Rivers. The Orlam, who migrated from the south to the north-west in the beginning of this century, and who became very troublesome to the Topnaar by their hostile encroachments, are also a mixed tribe of the Namaqua and elements of Cape Colony, but they have retained their language and more of their nationality than the Bastard-Griqua. The *Nama* and the *Korana* or *Koraqua* on the middle !Gariëp, and more to the north (sing. masc., !Kora-p, plur. !Kora-n, or !Kora-qu, !Kora-qua), are the only other pure Hottentots, but both are unmixed only where they have not come in contact with the whites or with Bantu nations.

Physical Characteristics: Stature.—At the beginning of the last century the Hottentots were described by travellers as middle-sized or large—from five to six feet tall, according to Kolbe, who saw thousands of them. The now extinct Cochoqua of Saldanha Bay were formerly, and the Griqua and other mixed races are at present, mentioned as extraordinarily large; the rest are now generally less than middle-sized, the men sometimes even below 160 centimetres (63 inches), the women below 140 centimetres (55 inches). The Bushmen are particularly small, their height going as low as 125 centimetres (49.2 inches, Barrow), but on an average attaining 140 centimetres (55 inches). In proportion, the men are even smaller than the women.

Form.—The figure is by no means good. The pelvis is narrow and much curved toward the front, and in consequence the spinal column is deeply bent in (*pl.* 82, *fig.* 7), and the hips do not project at the sides. As the lower ribs are frequently drawn up by a development of the belly, the rump presents an oblong-square, clumsy appearance. The muscles are but poorly developed, and consequently the limbs are thin and the joints prominent.

The Bushmen are still more uncouth, on account of their large and clumsy heads and the disproportion between the limbs and the rump. Their arms are often longer and their legs shorter than with whites. Their hands and feet are small and graceful, as are those of the Hottentots. As their bellies are enlarged by innutritious food, their breastbone becomes broader below, so that their shoulders appear narrow and are curved to the front. In strength they are superior to the Hottentots.

The form of the women is greatly disfigured by the enormous development of the upper leg and a bolster of fat on the hips. This feature, which is seen also among the Bantu and Negroes, is not peculiar to all the women; it sometimes, though in an inferior measure, occurs among the men. A change in the nourishment has an exceedingly rapid influence on the outlines of their figures (Fritsch) (*pl.* 82, *fig.* 7).

Hottentot Apron.—Another famous peculiarity of the Hottentot and Bush women is the so-called "Hottentot apron." However, it is not

found on all Hottentot women, and is sometimes seen in North Africa, and even in North America. In spite of the apparently great development of the hips, the pelvis is small and remarkably narrow, as is illustrated by the outline of the pelvis of a Bush woman on Plate 1 (*fig. 11, d*). Compare this with the pelvis of a Negress (*c*), with that of a Javanese woman (*b*), and especially with the pelvis of a young German woman (*a*). In comparison with the latter the difference is remarkable. The bones constituting the pelvis of the Bush women are thin and brittle.

The skin of the Hottentots, and especially of the Bushmen, easily becomes wrinkled as though withered, not only on the face, but also on the body (*pl. 82, figs. 2, 4, 5; pl. 85, fig. 1*). This shrivelling is visible in youth, and is absent only during the earliest years (*pl. 82, fig. 6*).

Color.—The color of the skin varies: it is generally of a leather-yellow or brownish-yellow to dark brown—reddish-brown among the Griqua, grayish-brown among the Korana. The Bushmen also are generally of a light color, but there are some tribes of Bushmen on Lake Ngami who are as dark as Congo Negroes (Livingstone); and this color is said to occur also among some branches of the Nama. The lighter tribes plainly exhibit redness of the cheeks.

Hair.—The hair is peculiar. It is black, short, hard to the touch, and grows in bunches or frizzy tufts, between which the surface of the scalp remains bare (*pl. 85, figs. 1, 2, 3*); some individuals seem to have a full hair-covering (*pl. 82, figs. 1, 4*). In ancient reports we hear of individuals with long curls. The hair of the body is scant, though not totally absent; there is also a little beard, short and furry, generally growing on the upper lip only (*pl. 82, figs. 2, 3, 5; pl. 85, figs. 2, 3*).

Skull-Form and Features.—The formation of the skull is dolichocephalic, but broadened so much toward the occiput that Welcker puts it into a separate class, that of the *platystencephalic* or low long skulls (*pl. 82, figs. 8-11*). The back of the skull presents in most cases of pure race a pentagonal form (*pl. 82, fig. 10*). The jawbones are prognathic (*pl. 82, fig. 11*). The chin is small; the forehead generally finely developed, high, projecting globularly (*pl. 82, figs. 1-4, 6, 11; pl. 85, figs. 1-3*).

The cheekbones project more among the Hottentots than among the San (*pl. 82, figs. 1, 3, 4*). The eyes are far apart, well opened, long, but not very high, although lying in broad sockets (*pl. 82, fig. 8*). The iris is dark brown, the cornea yellowish-white. The nose is broad and flat especially at its root (*pl. 82, fig. 11*), projecting but little over the large and somewhat thick-lipped mouth (*pl. 82, figs. 1-6; pl. 85, figs. 1-3*). The ears are large and the teeth fine. Some witnesses declare that both Hottentots and Bushmen are not entirely ugly, and that some of them are even handsome. The Bushmen generally have a stealthy, subtle look and a great vivacity of expression.

Circumcision.—It is said that formerly a peculiar circumcision was practised on the Hottentot boys under the pretence of enabling them to

run faster. The custom is now obsolete among the mixed tribes of the Hottentots, and the Bushmen seem never to have practised it.

Costume.—The dress is simple. The men wear a sheep-skin mantle, and they cover the loins with a small piece of skin, which they fasten with straps. The women—at least among the Namaqua—wear a larger apron than the men, and they also wear behind the so-called *kaross* or *kross*, a piece of leather extending from the waist about as far as the knee, or, among some tribes, reaching to the ankles. Chiefs wear the skins of the nobler animals of the chase.

The Hottentot men carry about their necks a small leather bag containing their tobacco, money, and an amulet; the women, a larger one for provisions, tinder-boxes, tobacco, etc. As long as the national character was undisturbed, the women also wore a leather cap pointed at the top, while the men had a flat cap, which they used only in bad weather. They wear leather sandals only on long marches. They grease themselves, as well as their skins and dresses, with tallow, which they often color black with soot. The Bushmen color it yellow with ochre.

The Hottentot women often paint their faces red in grotesque designs. As they never wash themselves, but, on the contrary, always grease themselves anew, and often mix dust or dried dung with the tallow, their exterior is very repulsive, the body often being covered with a thick crust of dirt, infecting the air to a great distance. They also grease the hair in a similar manner, put on an odoriferous powder made of the buchu-plant, a species of *Diosma*, and decorate the end of each lock with something glittering.

Ornaments.—They are very much given to finery: chains, feathers, pieces of skin of captured animals—in former times the bladder—are worn in the hair (*pl.* 82, *fig.* 5); chains about the neck and bosom and ear-rings are common; also rings of ivory, copper, and brass on the upper arm (*pl.* 84, *figs.* 4, 5, 6)—the arm-rings, however, being ornaments of the men only; and the Hottentot women protect and decorate their legs from the knees to the ankles with rings of sheep-skin put closely together. One tribe of the Bushmen wear pieces of wood in the cartilage of the nose. The Hau-Koin have the same attire as the Namaqua. Of course at present the natives, where they associate with the Europeans, give a more or less European shape to their garments (*pl.* 82, *figs.* 1-4), which are mostly made of leather.

Weapons.—The *kirri*, a short, thick staff of oak-wood saturated with fat and used in close combat, and the *rackum*, a stick about three feet long pointed at the top and used for throwing, were the inseparable companions of the Hottentots. For blowing the nose and wiping off the perspiration they use, according to Kolbe, a piece of wood one foot long to which the soft tail of an animal is attached. Their *assagais*—spears with double-edged iron points, whose wooden shaft is from six to eight feet long and pointed at its end—are weapons of more importance than the *kirri* and *rackum*. They poison the iron points, and also the barbed iron points of the cane-

shafted arrows with which they shoot far and surely from large bows three feet long and made of iron or wood, with bowstrings of the entrails of animals. The poison is obtained from plants or from the poison-glands of snakes. The quiver is a hollow piece of wood. Most of the Hottentots no longer use these weapons, as they are supplied with European fire-arms, but they are still employed by the Hau-Koin, and the Bushmen use the bow and poisoned arrows so much that the surrounding Bantu nations, who greatly fear the arrows, call them bow-shooters—Abatua, Baroa.

Building.—The house-building is simple; the huts are oval or oven-shaped, and are constructed by driving into the ground both ends of long, flexible poles, or else by tying the poles together at the top. This frame, which is strengthened by firm joists, is thickly covered with mats or skins. The doors are only three feet high, so that the people must crawl through them; and when inside they cannot stand up, as the structures, though fourteen feet long and twelve feet broad, are scarcely five feet high. These huts form a closed circle, and their villages are therefore called *kraal* (a Dutch word meaning "circle"). The Hau-Koin build in a similar manner, but cover the huts with shrubbery. It is said that some Hottentots formerly built square huts of clay.

The Bushmen usually live in caves, holes in the ground, huts of shrubbery, sheds, etc., but they also sometimes erect square huts with plaited walls. Kolbe often saw Hottentot villages consisting of from eighty to one hundred houses. The interior of the huts is unclean and full of vermin. The Koi-Koin sleep in recesses in the ground, and have the fire-place in the centre. The fire is kindled by the friction of pieces of wood, and the usual fuel is dried cow-dung.

Manufactures.—They make the skins soft and fit for use as garments by repeated greasing and hard beating; their needles are bones, sinews their thread, and they plait mats and ropes nicely and closely; they manufacture their ivory and metal rings, for they are acquainted with a rude manner of smelting and working iron. They also form and burn earthen pots (from the earth of ant-nests); and they have baskets, wooden vessels which they make hollow by means of fire, spoons, etc.

Stock-Raising.—They are skilful stock-raisers, and keep sheep and cattle, the former being driven within the kraal at night, the latter tied outside of it. The male animals are generally castrated; the uncastrated bulls are kept for breeding and in order to be let loose upon the enemy in war, and the others are used as beasts of burden. In order to make them tractable the nose is pierced and a plug inserted in the hole. They ride on them, and in their migrations pack on them everything they possess, even their huts. But they also bestow care upon their animals: a few persons from the kraal act as shepherds and always accompany them to the pasturage. There are also veterinary surgeons, to whom many remedies are known. The very young lambs and calves are put into a roomy hut built in the middle of the kraal. The manner of milking is the same as that which Herodotus observed among the Scythians, who milked their

mares, and which may at present occasionally be observed among the Mongolians. While milking the cows which are poor in milk they blow into the vagina and thus cause the milk to flow.

Food: Preparation and Prohibition.—The Koi-Koin rarely eat the flesh of their herds, only at feasts or when an animal has died. Their chief food is the product of the chase, onions, fruit, fish, etc. The tribes on Walisch Bay and the Hau-Koin eat principally of the fruit of a *Cucurbita*. The food is cooked or baked on hot stones in holes in the ground, but is mostly devoured half raw. The men of each kraal eat together, as also the women and children; and there are various prohibitions of food for both sexes. The hare, for instance, is forbidden to the men, and we shall later on meet with it as a sacred animal (p. 301). During migrations and in cases of famine everything that can be found, insects, larvæ, etc., is eaten, and, according to Kolbe, even the leather rings worn by the women around the legs. Milk is drank, but only that of the cows is allowed to all, as sheep's milk is prohibited to the men. It is well known that the Bushmen can fast for a long time, but, on the other hand, when provisions are plentiful the voracity of the Koi-Koin knows no bound.

Stimulants.—They formerly smoked wild hemp (dacha) as a stimulant, and still do so, although tobacco is now known to them; they smoke it from long earthen pipes which they themselves manufacture, and, like most nations in a state of nature, they swallow the smoke. After this enjoyment they are especially voracious. Through the Europeans they have become accustomed to the use of spirituous drinks.

Agriculture, Hunting, and Fishing.—Formerly they carried on no agriculture whatever, but learned it later from the Europeans, especially the missionaries. They practise it where the character of the country permits it; but, as the Europeans have taken the most fertile districts, their agriculture does not amount to much. They fully deserve their ancient fame for skill in hunting. Besides their spears and arrows, they employ pits, which they carefully cover; they catch fish with pointed sticks, with hooks, or with large nets. They are good swimmers—not after our method, but by treading the water and keeping the arms free. The men attend to the chase, the fishing, the care of the stock, and the house-building, at which, however, the women assist. The latter have charge of the cooking and of the house, assist at keeping the animals, dig edible roots, and attend the children.

Marriage: its Ceremonies and Restrictions.—Polygamy is permitted, but was never extensively practised; the most ancient reports mention three wives as being the maximum number. Marriage is contracted very simply: the father of the groom speaks to the father of the bride at a solemn smoking of dacha; the groom, if rich, contributes several head of cattle to the festive meal, and the contract is complete. Among those tribes which are not in contact with Europeans, and everywhere in former times, both groom and bride were before their marriage sprinkled with "holy water" by the priest of the kraal—that is, he urinated on them—

and this water was rubbed into the greasy crust over the skin. This loathsome act must have had some religious signification, for the Hottentots were otherwise very decent in matters of this kind. Relatives in the second degree cannot marry each other. Adultery and incest were punished by death, and consequently dissoluteness occurred but rarely: however, matrimony was easily dissolved.

Births and Attending Ceremonies.—Women in labor are assisted by other women, and each kraal has a midwife. Dacha or tobacco boiled in milk is used to quicken the birth. The husband is not allowed to enter the house during his wife's confinement, lest he should become polluted. Twin sons are received with joy; of twin girls, one is generally cast out or buried alive, and the same fate awaits a girl born with a twin brother. New-born children, especially girls, are not unfrequently destroyed; more than three children are rarely ever brought up. The Bushmen show still less regard for the lives of their children, especially if they themselves are in danger or want. Quarrels between the parents often result in the murder of the children, and deformed children are always destroyed.

The birth of a dead child creates great fear among the Hottentots; the father becomes unclean and the whole kraal is torn down. A normal child is first rubbed with fresh cow-dung, then with the sap of a *Mesembryanthemum*, next with fat, and finally the odoriferous buchu-powder is strewn over it. It is named by the mother, more rarely by the father; the name is taken from some animal or other object of nature, and is given immediately after birth.

The care given to children is not very great: the mother carries the infant on her back, the other children run by her side; later on the boy remains with the father, the girl with the mother, and they are taught the arts of the parents or acquire them by themselves. There is no lack of affection on the part of parents, but examples of great barbarity are also not absent, and it is deemed no disgrace for grown-up children to beat their parents.

Among both Bushmen and Hottentots superannuated persons are supplied with some provisions and left in the desert to die. Both tribes carefully nurse their old members in sickness so long as there is a hope of recovery. When this hope fails, a hut is built in the wilderness or a circle of stones is formed to represent one: the sick person is placed in it, and his nearest relatives or the members of his kraal put him to death. The act is accompanied by religious ceremonies, and, whether on account of the religious hopes mingled with it or because of the force of custom, it is expected and acquiesced in by the victims themselves. This custom, as well as the manner of casting out children and the care with which the after-birth and the blood of a parturient woman are buried, is founded in fear of the souls of the dying and of the spirits that live in blood.

Maturity.—Youths before reception into the community of men must first be made men, on which occasion that unclean ceremony which we have mentioned (p. 298) is again a main factor; at the same time offerings

are made. Among the Bushmen of the !Karri-!Karri Desert, who wear the nose-plug, the nose is pierced at the time of manhood. The women are considered unclean during the period of menstruation, but, on the whole, they are not badly treated among the better-situated tribes, and they even allay quarrels among the men. They are treated worse among the more barbarous tribes of the Hottentots and by the Bushmen. Among the Hottentots widows are permitted to marry, but they must then amputate one joint of a finger (the little finger first). This loss is probably endured also voluntarily on other occasions; for instance, as an offering to bring health to sick persons.

Inheritance.—Daughters do not inherit; at the most they receive presents at their marriage. The oldest son inherits everything. The younger brothers receive presents only, and continue dependent on the oldest, whom they assist in hunting and on the pasture, and in return are sustained by him, as is also the widowed mother. Still, it was the younger brothers who as a rule sought service among the Dutch, although this service was far more severe than that of their own family.

Government.—First the father, and next the oldest brother, enjoy patriarchal power within the family, and on this form of family life their constitution is based. Each kraal has its "captain," whose dignity is hereditary; the tribes also have their superiors, on whom the captains are dependent, and who are commanders-in-chief and supreme judges. No exterior decoration distinguishes the chief; there are no different ranks, nor are there slaves, for the pastoral life of the Hottentots has created perfect liberty and equality among them.

Laws.—According to law also they are equals. Accidental murder can be atoned by presents. Adultery, murder, and theft are punished with death: the captain assembles the kraal, and the accused is permitted to defend himself, but when found guilty the captain strikes the first blow in order to kill him, and this blow generally makes others unnecessary. If the murderer escapes, he is an outlaw, for blood-revenge prevails. The petty quarrels of the Hottentots are generally settled among themselves by cudgelling.

Wars.—Wars are occasioned by violations of boundary, and are carried on with zeal and in open battles, which are conducted by the captain, who gives the signal for beginning and for terminating them. Generally the combatants quickly take to flight. They do not take captives, but kill whomsoever they overtake either in battle or in flight; wholesale slaughter and massacres are not usual. After a battle both parties solemnly inter their dead.

Funeral Ceremonies.—Funerals are accompanied by loud howling and lamentations, which begin as soon as the sick person's case is deemed hopeless. The corpse is placed in a sitting posture, the elbows on the knees and the head resting on both hands, this being the usual mode of sitting, especially on solemn occasions. The interment occurs very soon after death, and is made in a cave, to which the whole kraal, howling

and with passionate gestures of grief, bring the body. The deceased is not removed from his hut through the ordinary door, but a special opening is made in the rear wall, probably from the idea that he is thereby prevented from returning—a custom which we have also seen to exist in other parts of the globe (p. 224).

When the corpse is interred and the grave securely closed, the mourners return to the hut and squat in a circle, while the elder of the village sprinkles all, men and women, with his urine and strews over them ashes from the hearth of the deceased. Friends then bring sheep to be slaughtered, and the eldest son of the deceased wears about his neck a part of the entrails, sprinkled with buchu, until they rot off. Whoever has no sheep to be killed shaves his hair, both as an offering and as a sign of mourning, in such manner that the crown and a broad circular stripe in the midst of the hair are bare. The next day the whole kraal is taken down and transferred to another location, only the house of the deceased being left, so as not to anger his ghost, and the lamentations are repeated before the house for six or eight days. The manner of burial among the Bushmen is similar: they also leave the place of death, but they burn the hut of the departed. Both Hottentots and Bushmen have great fear of the spirits of the dead.

Religious Belief: Deities and Myths.—It was a serious error to assume that neither the Hottentots nor the Bushmen had a belief in deities. Both are markedly religious peoples, but their conceptions are not clearly defined or are not understood by us, and at the time of the discovery they were no longer understood by themselves. The supreme god of the Hottentots was Tsui-|goab, and it is an evidence of his former importance that his worship was adopted by the Caffirs (Vanderkemp and Moffat). He brought men from heaven down to earth, and gave them all that is good. He rules over everything, and consequently bears the name of ruler, Tsui-|goab. He is undoubtedly a personification of the vault of heaven, as among the Nama there is also found a myth about the great flood and the ship of clouds which brings white people and rich blessings. But the veneration of this god was afterward put in the background, as the whole conception of him was indistinct, and later he was looked upon merely as a powerful man or a wandering chieftain.

The Bushmen also believed in a masculine deity abiding in heaven who gives all that is good, and especially victory, and whom they therefore worshipped by dances before every war. They feared an evil deity, whom, according to Kolbe, they venerated more than Tsui-|goab, and who takes a part in many of the myths. The San believed in a subterranean deity. The moon was highly venerated, and they honored her by nocturnal dances and songs, which were plaintive at the new moon, but joyous at the full moon. The mortality of men was associated with the moon: the moon ordered the hare to tell men how she herself dies and again arises, and that they should do likewise, but the hare omitted communicating the news of the resurrection, and therefore man must die.

Whether we must recognize in the often-mentioned hero Heitsi-Eibib, who continually dies and comes to life, whose graves, large heaps of stone, no Hottentot passes by without adding another stone, and who is also represented as purely human,—whether we must recognize in him a personification of the moon or of the sun we leave an open question. He appears as an independent deity who brings blessings; and he fights with the hostile ||Ga ||Garip, who casts him into a dark ditch, from which he always returns, and into which he at length casts his enemy. A cave is also shown as his dwelling. In one myth he calls the water his grandfather's father, and everywhere the water-god was venerated; the Bushmen knew him by the name of Tu-sip, made offerings to him when searching for water, and implored him for blessings; and no Hottentot will cross a river without honoring him with dances and other ceremonies.

Spirits.—The number of inferior spirits is large. The stars receive peculiar veneration, especially the Pleiades, the Milky Way, Jupiter, the Southern Cross, etc., about which the Hottentots and the Bushmen relate many tales. They also venerate the large animals of the chase, especially lions, elephants, etc. If a Hottentot has killed any such, he must undergo a religious purification; and the same becomes necessary for the whole kraal if they have slain several while hunting together. No Bushman dares utter the lion's name aloud at night; even during the day he avoids pronouncing it, and in its place says "the boy with the beard" or uses some similar periphrasis. We have already spoken about the hare (p. 298), and in this connection we may mention the various prohibitions of food found among these tribes. One tribe is forbidden to eat this animal, another that; and this custom is certainly founded on the fact that the tribes see in these animals respectively their guardian spirits.

The well-known veneration which the Hottentots bestow on an insect (a red-and-green grasshopper), as also on any person on whom it may have alighted, is striking. According to analogy with other peoples who have the same custom, they recognize in this winged chirping insect the embodiment of the soul of some ancestor, who returns as a guardian spirit; it converts the person on whom it alights into a prophet and saint, and he, in order to become again an ordinary mortal, must release himself by offerings. But the souls also go about as hostile demons, as we have already seen, and the Hottentots have the greatest fear of them, especially of the ghosts of children, because these are believed to be the most malicious and dangerous. These souls enter into human bodies, sometimes attracted by magic, and cause diseases.

Superstitions.—The Koi-Koin have innumerable superstitions, as is proved by their ejaculations at sneezing, by their amulets which they consult before undertaking anything important, and by other customs. It is also remarkable that they have a complete taboo law, such as we have found in Polynesia (p. 200) and indeed almost everywhere. To this belongs the distinction made between men and women, and the law that

whoever touches anything sacred or comes in contact with a corpse, etc. must be purified.

Their manner of sacrifice offers nothing of interest; they pray much with short invocations, and especially do honor to the gods by dances and songs. They have neither idols nor temples, unless the Heitsi-Eibib graves be considered such; but they regard the mountain-summits as sacred, and pray there or at places where they have experienced some favor, have been saved from some danger, etc.

They use other remedies besides magic in case of sickness; they practise cupping by means of smoothly-cut cows' horns, also bleeding, and have a number of medicines, mostly derived from plants, which they apply internally and externally. They have a remedy for the bites of poisonous snakes, and the feats of their poison-doctors, who themselves manage to escape being bitten by the snakes, are said to be astonishing. When they are in good health, music and dancing constitute their principal pleasures.

Musical Instruments.—Their musical instruments consist of a kind of kettledrum and the remarkable *gorah* (gom-gom), which is a wooden bow strung with a thick gut string; they blow upon the latter through a feather quill at the end of the bow. To make the sound stronger they fasten under the string a cocoanut-shell, the cavity of which serves as a sounding-board. Their singing is plain, but correct, and they have a good musical ear and memory.

Dances, etc.—Their dances, which they mostly accompany with songs and the clapping of hands, are of different kinds; generally they dance singly or in couples, taking turns, but always within a circle of squatting and singing spectators. Originally all the dances probably had a religious meaning. The drawings of the Bushmen which they put on rocks in white, red, or black colors generally represent animals, and are in correct proportions and easily recognized. Furthermore, the Koi-Koin are given to narration, and while their lyric effusions are insignificant, their fables and fairy-tales, many of which they have adopted from foreign nations, are not poor, although they contain much that is fantastic.

Culture.—We have now sketched a picture of these peoples, and we must confess that not even the Bushmen occupy so low a position as is generally supposed. On the contrary, we must believe them to be a highly-gifted and well-developed race, who have proved themselves able to adopt European culture where it has been seriously presented; nay, they are superior to many of the immigrants.

Character.—Neither is their character bad. They are indeed lazy, especially the men, and very averse to steady work. Their long habit of not working is not the only cause of this; they also consider work a disgrace and a species of slavery, and have often told the Europeans this in sophistically shrewd reasoning. However, their laziness has been exaggerated. That they had no desire to be industrious for the benefit of the Europeans is easily understood from the manner in which the latter often

deceived them or maltreated them. Still, the diligence of the Hottentot servants of many missions and the excellence of the men as soldiers show that their indolence can be overcome by reasonable treatment. In their own free life both Hottentots and Bushmen are zealous in work, as in housebuilding, attending to animals, hunting, etc.

At present they are much addicted to liquor, and they always have had a great liking for stimulants (*dacha*). But they are perfectly honest—or at least were so—and even when goods had been paid for beforehand no fraud was practised on their side. They are hospitable and good-natured, live peacefully together, and are decent, truthful, and trusting. The Hottentots have an earnest, sedate disposition, often changed, however, into indolence and indifference.

Both tribes, Hottentots as well as Bushmen, have a sense of personal dignity, and they have become civilized only where they have been respectfully treated. The Bushmen are livelier than the Hottentots, but both are equally harmless. They all enjoy social entertainments, dancing, and singing. Their filth is indeed repulsive, and the fragmentary tribes especially have sunk into the grossest barbarity.

Considering their treatment by the Europeans, nothing else could have been expected. Their country was taken from them, they themselves were made slaves, the Bushmen were hunted like wild animals by the Dutch and English, the missionaries were kept from them by force or hindered and injured in every possible manner; and it is indeed more surprising that we still find Hottentots and Bushmen than that we meet with vagabonds and drunkards among them. The missionaries were not able to penetrate everywhere, owing to the rascality of the other Europeans, but where they did establish themselves they gradually produced good results.

Linguistics.—The linguistic conditions of this South-African race are remarkable. The languages of the Hottentots and Bushmen are indeed related, but, according to Bleek, not more closely than the Latin and the English. The dialects of the Bushmen are less developed than the Hottentot idioms, the latter being very numerous. The relationship of both these languages is seen, first, in the uniformity of the peculiar clucking sounds which we have already mentioned (p. 291); second, in the number of common verbal roots, in which of course whatever is merely borrowed is not included (Bleek); thirdly, in the numerous similarities in grammatical details; and, finally, in the uniformity of their fundamental construction.

The roots are monosyllabic; the relations of words are indicated by certain suffixes, many of which are alike in both languages. There is a precise distinction of form between the noun and the verb; no verbal root can be used as a noun, and it can become one only by means of suffixes. Uniformities are also seen in the formation of pronouns: both languages form an exclusive and an inclusive plural; both have many pronominal roots in common; and both employ them in the formation of suffixes.

It is remarkable that the Hottentot language preserves throughout three genders, which are entirely absent in the Bushman dialects. The latter indicate the distinctions between animate and inanimate objects, and in this respect have remained on an earlier grade of culture; the Hottentot tongue also exhibits this conception. This is indeed a decisive difference, which is of greatest influence on the rest of the language, on the formation of pronouns, etc. But, as in other languages, the grammatical gender has developed only at a late period, and only from the conception of animate and inanimate things; and as this latter distinction is still shown decisively in the Hottentot language, we are justified (though there are many undeniable relations between the two families of languages) in looking upon the grammatical gender of the tongue of the Hottentots as having originated at a later period, after their separation from the Bushmen, and in considering the different expressions for animate and inanimate objects as having been original and common to both languages. The following is another evidence: The Bushman tongue, besides various suffixes, applies reduplication in various manners for the formation of plurals, here also retaining the most ancient form. For although this manner of forming the plural is not now used in the Hottentot language, still the form *koi-koi-b*, for instance, is, in spite of the singular suffix, of similar formation.

2. THE BANTU PEOPLES.

Languages.—The languages of all the peoples whom we comprise under the name of *Bantu* are remarkable and easily recognized. Bleek calls them "prefix-pronominal languages," and in that characterizes them accurately. Everything must accord with the noun or principal idea. The substantives are divided into various classes, all designated by certain prefixes of pronominal origin: thus, in Otshi-herero, the prefix *mu* signifies a single person, *va* a number of persons; another prefix signifies plants, still another animals, utensils, etc. Next, a concordance exists between the attribute and predicate and the prefix of the principal substantive, all taking a similar prefix; thus, according to Bleek, in the Zulu tongue, ¹*U-bu-kosi* ²*b-etu* ³*o-bu-²kulu* ⁴*bu-ya-bonakala* ⁵*si-bu-tanda*—that is, "²Our ³great ¹kingdom ¹appears, we ⁵love it." *Bu* signifies abstract words; and in order to indicate that the pronoun "our," *etu*, relates to this word, it takes the like prefix, *b-etu*; *kulu* is large, but in relation to a word with the prefix *bu* it becomes *o-bu-kulu*, in which case the *o* as well as the *u* in *u-bu-kosi* is an article-like prefix; in the same manner the syllable *bu* is placed before the adjective verb, *bu-ya-bonakala*, "is appearing;" and in the next word *bu* takes the place of the noun in an objective form. Moods and tenses of the verb are formed by prefixes or by suffixes; there is no distinct difference between verbal and nominal roots, at least not everywhere.

The above are the fundamental traits of all Bantu languages, but only rarely is the uniformity carried out as rigidly as in our example.

Very often the prefix of a class takes the place of a certain other word

with the verb. Thus, in this sentence of the Suaheli language (Steere),¹ *Yule* ²*ki-yana* ³*a-ka-futa* ⁴*u-panga* ⁵*w-ake*—that is, “¹This ²youth ³drew ⁴his ⁵sword”—*ki* in *ki-yana* is the sign of the first class of substantives, which signifies living beings; *a* in *a-ka-futa* is the sign of the third person which comes before the verb when the subject is a noun of the first class; *ka* signifies the past tense; *futa*, to draw. In *u-panga*, *u* indicates a noun of the seventh class, which signifies utensils; also the *w-(u)* in *w-ake*, his.

Se-suto is the language of the *Basuto*, one individual of whom is called *Mo-suto*; *O-mu-herero*, one of the O-va-hereros; their language is called *Otshi-herero* (Bleek). Thus one can draw an outline of all these languages, and can also explain the apparently changing name of one and the same tribe. Bleek calls the whole race the *Ba-ntu* tribe, because the syllable *ba* (*ma*, *va*) always precedes the names of these nations, indicating the plural; *ba-ntu* in the language of the Caffirs signifies “people, persons.”

Classification.—According to Bleek, the whole family of the Bantu is divided into—

1. The *South-eastern* branch, which includes the *Caffirs* (A-ma-kosa, Ama-pondo, Fingos, Zulus), next the *Tkeza* tribes (Ma-tongo and others), and finally the *Betchuanas* (Basuto, Barolong, Makololo, etc.), and is bounded by the Limpopos, only the Makololo extending in the interior as far as the Zambesi.

2. The *Eastern* division, which comprises first of all the tribes as far as Cape Delgado; the inhabitants of the Sofala coast, the *Makuas*, the inhabitants of Quilimane, Mozambique, and Kisanga; in the interior the *Maravi*, the *Barotse*, and the tribes around Lake Nyassa; farther to the north the *Wanyamwezi*, the *Balunda*, and the *Molus*; and finally the northern group of the *Suahelis* around Zanzibar, the *Tshagas*, and other tribes farther to the north.

3. The *Western* division, which is formed by the *Hereros* (the Damaras of the plain), the *Ovampo*, the population of Benguela and Angola (Bunda nations), as also by the *Congo* tribes and the *Mpongwe*.

4. The *North-western* branch, which includes the nations from the Gaboon to the Cameroon Mountains and the Niger Delta, the *Dikelis*, the *Bengas*, *Isibus*, *Duallas*, and the *Ediyahs* on the island of Fernando Po.

Our illustrations show individuals of the South-eastern branch, Plate 84 (*figs.* 1-7), Basuto; and Plate 83 (*fig.* 1), Plate 85 (*figs.* 6, 7, 9), Zulus; of the Eastern branch, Plates 87, 88, 89, Suahelis, Tshagas, and Kambas (the latter two tribes dwelling to the north and north-west of the first-named); the Ma-bongu (Mbongu), the Mukomanga, and the Ma-Nyassa (that is, inhabitants of Lake Nyassa), the latter of which belong to the Makua (*pl.* 87, *figs.* 2, 3, 4, 5; *pl.* 88, *fig.* 2; *pl.* 89, *figs.* 8, 9, 13). The Wanyamwezi (Monomoezi, Uniamoezi), to the north of Lake Nyassa and east of Lake Tanganyika (*pl.* 87, *fig.* 1), are closely related to the Ma-Nyassa. Mozambique Negroes are seen on Plate 86 (*figs.* 18, 19, 20); to

these are related the Manganyas, who have their seats in the interior off the coast of Mozambique (*pl.* 89, *figs.* 1, 2, 6). The illustrations on Plate 89 (*figs.* 3, 5, 6) also relate to the Eastern tribes, Figure 3 to the Suahelis, while the Benguela and Congo Negroes of Cabinda (*pl.* 90, *figs.* 1-5, 8) are representatives of the Western branch.

Similarity of Tribes.—The comparatively great similarity exhibited within this widespread family is striking. The inhabitants of Mozambique are in language so much like the Congo and the Angola Negroes that the assertion that they can easily understand one another seems probable. Physically also we find such great resemblance among these tribes that one description will apply to them all; and indeed our plates show at once this universal similarity.

Intermixtures.—In our description we must take into consideration the numerous mixed forms which occur at the boundaries of this district; for example, in the south between the Caffirs and Betchuanas on the one hand, and on the other between the Hottentots and Bushmen, and in the east between the nations of the coast and the Arabians. Thus the father of the Suaheli family on Plate 87 (*fig.* 3) shows this Arabian influence by his strong beard (comp. *pl.* 88, *fig.* 1). It is natural that toward the north-west intermixtures with Negroes should have taken place, but to attribute the black color of the Bantu peoples to an intermingling with Negroes, as has been recently done, is clearly incorrect. Negro slaves have not unfrequently intermingled with individuals of the different Bantu tribes, but such intermixtures, as well as others with Indian merchants, are only single cases which could have no effect upon the entire people. The influence of the Europeans in this direction is of greater importance; and of still more importance is that of the Malays, who have frequently come to the eastern coast, and of late also to the Cape, but they have not effected a change of the whole type.

Physical Characteristics: Stature and Form.—The stature of all the Bantu tribes is of middle size or larger, and a height of 180 centimetres (70.87 inches) or more is not uncommon. A lofty stature and well-developed muscles are rarely found, and the bones of the skeleton are brittle; the rump is generally too long, the limbs too thin, and the calves not developed (*pl.* 83, *fig.* 6; *pl.* 84, *fig.* 7; *pl.* 85, *fig.* 9; *pl.* 89, *fig.* 13). Hands and feet are small and graceful, but the latter are often poorly arched and have a greatly projecting heel. The pelvis is narrow, the chest uniformly prominent, and consequently the upper part of the body is ugly and square (*pl.* 89, *figs.* 9, 13). The spinal column is often much curved anteriorly, and as the pelvis (according to Pritsch among the Southern branch, comp. *pl.* 80, *fig.* 8) is curved toward the front, the buttocks and the knees frequently project; the ugly shape of the foot may also come from this. The women have a tendency to corpulence (*pl.* 80, *fig.* 8); the breasts of the girls are globular and erect (*pl.* 81, *fig.* 4; *pl.* 80, *fig.* 5), those of the women flabby, often hanging low down (*pl.* 80, *fig.* 8); the entire ring of the nipples is elevated, and not the nipples

alone. The muscular strength is not great; the senses are acute, and the body is capable of continued exertion.

Color.—The color of the Southern branch is mostly a dark brown, which on the one hand is shaded into black, and on the other hand modified to a leather-brown. But this light coloring, as well as the very dark hue, occurs comparatively rarely. According to Fritsch, the dark color prevails among the Betchuanas. Livingstone, however, found only the inhabitants of the mountains to be of a darker color, and in general he met with a lighter tint, a light brown or bronze—which frequently occurs among the Zulus—but never a real black. We notice that the same colors are found in the east as far as the Equator.

The natives of Mozambique (*pl.* 86, *figs.* 18, 19, 20) exhibit a light black, which by a reddish tint passes over into a copper color; other tribes, as many of the Suahelis (*pl.* 87, *figs.* 2, 4) and some Tshaga tribes (*pl.* 88, *fig.* 2), are of a faint to dark black color or brown to yellow. So also in the west the Hereros are partly reddish-brown, and in part so dark that they must be called black; generally they are of a dull iron-gray, which is frequently seen among the Benguela Negroes (*pl.* 90, *figs.* 4, 5) and the other western tribes. Dark black and brown tribes and individuals are also not rarely seen among them. The skin, which is rather thick and has a tendency to wrinkle, especially in the south, has a disagreeable odor, the smell of which is compared by Fritsch to that of butyric acid.

Hair.—The hair of the body, as might be expected from the character of the skin, is very scant, down being entirely absent: it frequently grows in disconnected bunches (*pl.* 90, *fig.* 8), as does also that of the head and beard; but among some tribes and individuals it is thickly matted. The beard grows only about the chin and mouth (*pl.* 84, *figs.* 5, 6), and even there is rarely abundant. The hair of the head, black by nature, is mostly short, as is shown by our illustrations, and that of the women is shorter than that of the men or grows in separate long, frizzy, spiral strings (*pl.* 84, *fig.* 1; *pl.* 90, *fig.* 4). It is worn differently by the different nations, often in a very grotesque manner, which is produced by shaving, braiding, matting, etc. Plate 83 (*fig.* 4), Plate 86 (*fig.* 10), Plate 89 (*figs.* 1, 9, 13) show shaved heads on which at some spots the hair has been allowed to remain.

The national head-dress of the Zulus (*pl.* 85, *fig.* 9), which is allowed only to the men, is peculiar: the hair is shaved with the exception of a narrow vertex ring, and this, pasted with mucilage, grows into a kind of crown. Plate 87 (*fig.* 1) shows a still more grotesque and troublesome hair-arrangement. The married women of South Africa arrange their hair in a manner shown by the partially shaved head of the woman on Plate 89 (*fig.* 1), with this exception, that the bunch of hair which is allowed to remain is here not on the forehead, but at the highest point of the vertex.

Skull-Formation.—The Bantu skull, the bones of which are strong

and thick, exhibits many peculiarities; it deviates from the Hottentot skull in being narrow and high, and is not flat, thus resembling the Negro skull. The development of length is plainly shown in the top view (*pl.* 85, *fig.* 4; comp. *pl.* 82, *fig.* 9, and *pl.* 89, *fig.* 11); but on comparing the front view of the Betchuana skull (*pl.* 83, *fig.* 3) with the Hottentot skull (*pl.* 82, *fig.* 8) the greater height of the former is easily seen.

The lower jaw is broader than that of the Hottentot, and there is greater development of the teeth, the jaws projecting far less (*pl.* 82, *fig.* 11; *pl.* 85, *fig.* 5), although a slight prognathism cannot be mistaken (*pl.* 2, *fig.* 12). The latter illustration shows an open space between the incisor and the eye teeth, which gap often occurs in prognathic skull-formations. The base is rather even (*pl.* 2, *fig.* 12; *pl.* 85, *fig.* 5). The Bantu skull shows a decided resemblance to the Hottentot skull in the breadth of the space between the eyes, in the small development of the nose, in the rather straight and angular forehead, in the not insignificant development of the frontal bones, and in the strong vertex.

Features.—From this it follows that the faces of these Southern tribes must have many resemblances to those of the Hottentots. The nose is pressed in at the root, and consequently the point only projects from the face (comp. *pl.* 82, *fig.* 1; *pl.* 85, *figs.* 1, 2, 3; *pl.* 87, *fig.* 1; *pl.* 90, *figs.* 1, 4); it is thick at the point, broad at the back and the nostrils. The mouth is large, the lips thick and even everted (*pl.* 84, *figs.* 1, 3, 5), but the face, in consequence of the broader lower jaw, is broader than that of the Hottentot.

The eyes are full-sized, brown, generally with a dull yellowish cornea, but they appear small because the lids droop as though pinched together (*pl.* 84, *figs.* 1, 3). The ears are large. Of course the different tribes exhibit many dissimilarities, as is shown on our plates, but the type, such as it has been described in its fundamental traits, is widespread, as Plate 86 (*fig.* 17), Plate 87 (*fig.* 1), Plate 88 (*fig.* 2), Plate 89 (*figs.* 8, 9, 13), Plate 90 (*figs.* 1, 4, etc.), prove. Deviations for the better consist principally in the freer development of the eye and of the nose, which projects more, especially in the north, and even becomes aquiline (*pl.* 83, *figs.* 4, 5; *pl.* 86, *figs.* 19, 20; *pl.* 89, *fig.* 2; *pl.* 90, *figs.* 2, 8, although Creoles, belong to the Bantu tribe).

Disfigurations.—Piercing the ear-lobes is universally practised (for instance, *pl.* 84, *fig.* 5; *pl.* 86, *fig.* 17; *pl.* 87, *fig.* 1; *pl.* 89, *fig.* 13), and some tribes in the east disfigure the lips by piercing them and wearing a large ring in the opening (*pl.* 89, *fig.* 2). This ring is generally an ornament of the women only, and is laid aside in case of mourning; in some places it is worn also by the men. In the east tattooing is very generally practised, sometimes over the whole body (*pl.* 89, *fig.* 1), but mostly only on the face and on the breast (*pl.* 86, *fig.* 20; *pl.* 89, *figs.* 2, 5, 6). The designs shown by our illustrations differ somewhat among the different tribes, but on the whole they are alike. In the west this decora-

tion of the skin is also known (*pl.* 90, *figs.* 3, 8), but it is less frequently practised in the south, where, however, the women scratch a few lines on their cheeks, forehead, and breast, encircling the neck, as on Plate 89 (*figs.* 2, 5, 6).

Some tribes, as the Batoka, who belong to the Makololo, knock out the upper incisor teeth at the time of manhood; others file them to a point; others break them into various shapes, crescentic, angular, etc. The Hereros extract two or all four of the lower incisor teeth and make triangular holes in the upper ones. Circumcision of the boys and youths prevails among most tribes, but not among the Zulus.

Costume.—The original attire of these nations—which, however, now often gives way to the European (*pl.* 84, *fig.* 3) and in the east to the Arabic (*pl.* 87, *fig.* 3; *pl.* 88, *fig.* 1)—is simple and in its main character unvarying. In the south the Caffir tribe and the Amakosa go about almost naked, the men wearing only such covering as is worn by the inhabitants of the Admiralty Islands (*pl.* 11, *fig.* 5); but instead of the white shell they have an embroidered leather bag or a carved fruit-shell, and they often wear a belt about the waist as a decoration. The Betchuana men wear a narrow leather girdle drawn between the legs (*pl.* 84, *fig.* 7), as do also the Zulus (*pl.* 85, *figs.* 6, 7), but the latter have pieces of leather, of skins, etc. hanging from it. The kaross or cloak of hides is here also in use, not always worn about the shoulders, but girded about the waist (*pl.* 84, *fig.* 7; *pl.* 85, *fig.* 9, the standing figure to the right).

The women generally wear only a scarf (*pl.* 89, *fig.* 1), which among the Basuto is often artistically decorated (*pl.* 84, *fig.* 6); the married ones wear a broader one over it; they invariably use cloths for tying down the breasts (*pl.* 89, *fig.* 13; comp. *pl.* 88, *fig.* 2), concealing the body, or carrying the children (*pl.* 83, *fig.* 6). They sometimes also wear the kaross, which has among the Betchuanas a turned-down collar (*pl.* 84, *fig.* 4, the figures in the background). It is generally of tanned ox-skin, but the nobles prefer the skins of wild and fierce animals (*pl.* 84, *figs.* 5, 6). A leather cap for the women, such as is seen on Plate 87 (*fig.* 4), is common; it varies according to the tribes: among the Hereros it is supplied with two long erect ears. In place of the skins of domestic animals, European materials are now much used, especially cotton goods, in the east.

Decorations.—The Bantu nations are fond of finery. They wear gayly-colored chains or ribbons in the hair (in the south, *pl.* 84, *fig.* 5; east, *pl.* 87, *fig.* 1; west, *pl.* 82, *fig.* 5), chains about the neck from which amulets, small tubes with antidotes against snake-bites (Fritsch), and among the Betchuana tribes short daggers in richly-decorated sheaths, are generally suspended (*pl.* 84, *figs.* 1, 5, 6). Both men and women wear in the hair pins decorated with glass beads (*pl.* 89, *fig.* 2). Necklaces of pierced teeth of animals (such as are on the leaping warrior, *pl.* 85, *fig.* 9) are especially precious; one from the island of Fernando Po which serves as an amulet is shown on Plate 92 (*fig.* 10). Ivory or metal rings about the arms are frequently

seen (*pl.* 84, *figs.* 4-7; *pl.* 85, *fig.* 9); around the lower leg rings of leather (*pl.* 84, *fig.* 5; *pl.* 85, *fig.* 9) or of metal (*pl.* 84, *fig.* 6) or strings of beads (*pl.* 84, *fig.* 4) are worn, and often the entire leg to the calf is covered with them.

The warriors have particular ornaments: among the Caffirs they cover the circle of hair with wood and put soft hanging feathers over it (*pl.* 85, *fig.* 9, the standing figure to the right); besides which the projecting feather of a species of crane is frequently worn as a warlike ornament (*pl.* 84, *fig.* 5; *pl.* 85, *fig.* 6). They also hang upon their bodies pieces of skin, especially of the Angora goat (Fritsch, *pl.* 85, *figs.* 6, 9), and other decorations which contrast with the color of the skin.

The ornaments of the Basuto warrior are similar (*pl.* 84, *fig.* 6). Sometimes the kaross of the women is supplied with a cockade-like decoration (*pl.* 84, *fig.* 4, at both sides below), which is said to have originally appertained only to the wives of elephant-slayers. For a covering of the feet sandals or a rude kind of shoe are sometimes worn. Fans of various shapes, often artistically plaited and decorated, are in use among the civilized tribes (*pl.* 87, *fig.* 3, to the right; *pl.* 92, *fig.* 11).

Dwellings.—The houses of the Amakosa Caffirs are like the beehive huts represented on Plate 86 (*fig.* 17), constructed of a centre post and elastic poles, the latter being joined at the top to the main post, so as to form the walls. The whole is covered with reeds, is rather low, and often has in front of the only opening, opposite to which the fireplace is situated, a narrow tunnel-like entrance so low that one can only crawl through it (*pl.* 86, *fig.* 2). This style of house, which is very much like the Hottentot hut, prevails among all Bantu nations.

The huts of the Zulus are plaited better, the reed coverings being fastened with a net of ropes (the hut in the background on Plate 86, *fig.* 2, may serve as an illustration); the same is the case among the Basuto (*pl.* 86, *fig.* 2). Among other tribes of the Betchuanas the house has a conical-shaped roof of reeds resting on a double wall, an inner solid one of clay, and an outer low one of wooden poles (comp. *pl.* 90, *fig.* 6, to the left), or also of clay, as on Plate 84 (*fig.* 2); the elliptical holes in the wall take the place of doors. The middle post, from which rafters extend to the clay inner wall, often projects like a button above the roof (*pl.* 83, *fig.* 2; *pl.* 84, *fig.* 2). The Suaheli tribes of the interior build in a similar manner (*pl.* 87, *fig.* 5). The houses of the Betchuanas are often divided into several apartments by a wall; those of the chieftains are painted red and white inside, generally with linear designs, but also with animal figures.

Villages.—Large villages are found (*pl.* 83, *fig.* 2; *pl.* 87, *fig.* 5), and those of the southern tribes are circular in the shape of a kraal. The Zulus build their huts in circles, fenced on both sides by thorn hedges, and enclosing a large thorn-fenced place for the stock. Opposite to this, in a special enclosure, are the chieftain's huts, which include not only his dwelling-house, but houses for his wives, storage-houses, etc.; the entire

village is again enclosed with a hedge of thorns which is about fifty feet distant from the outer enclosure of the houses.

The villages of the Betchuanas are similarly but less regularly arranged; the houses are also around the enclosed place for the animals, which is shown on Plate 83 (*fig. 2*, in the centre); and at its side, half hidden by the square house, is the place of meeting and counsel (Fritsch). The separate houses are again enclosed by close thorn hedges of irregular shape, though often several houses and families (*pl. 83, fig. 2*) are included in the same enclosure. The beginning of a palisade, consisting of strong, irregular poles, which form the framework, is shown on Plate 86 (*fig. 2*). European houses, square and built of wood (*pl. 87, fig. 5*) or clay (*pl. 83, fig. 2*), with windows and stairs, are now frequently erected by the Bantu nations; those of the eastern coast build in the Mohammedan manner. On the other hand, we meet with very simple buildings on the island of Fernando Po: roofs to protect against the sun are shown on Plate 90 (*fig. 7*).

Household Furniture and Utensils.—The household goods are numerous. They have vessels of plaited work, with or without a cover, which serve partly as baskets and partly as pots, for they are close enough to hold liquids (*pl. 86, fig. 1*). The southern tribes are especially skilful at plaiting. They decorate their utensils with the figures of animals (*pl. 84, fig. 14*), and also make artistic implements of ivory (*pl. 84, figs. 10, 11*) and large vessels of wood, cutting the latter, including the handles and feet, from the solid block. On Plate 86 (*fig. 1*, to the right) we see such wooden vessels of the Betchuana tribes: the smaller one is a bucket, and the larger a wooden mortar. Plate 88 (*figs. 11, 13, 18*) contains similar wooden utensils of the eastern tribes—pots for cooking, dishes, etc.

The Zulu women on Plate 83 (*fig. 1*, Livingstone) carry water-vessels of a remarkable cup-like shape; another, of more common form, is carried on her head by the wretched mother on Plate 83 (*fig. 6*). Ostrich eggshells and calabashes are also used, and as the latter grow in all shapes they serve for numerous purposes. They are decorated with various and oftentimes rich carvings (*pl. 86, fig. 4*).

These tribes also make earthen vessels, and obtain the material for them, as do also the Hottentots (Kolbe), from ant-nests (Fritsch). Such earthen vessels are seen in the interior of the huts on Plate 84 (*fig. 2*), Plate 86 (*fig. 2*), the large-bellied vessel in Figure 2 (*pl. 84*) being especially striking. It is a grain-receptacle, closed with a lid and resting on feet to protect it from ants and other vermin. Ruder pots of this kind, serving as temporary receptacles of grain, are often found in the fields, the better ones, containing the threshed grain, being covered by a light hut or stored in the dwelling-house; they are also found among the northern tribes and among the Negroes of Soudan (*pl. 90, fig. 10*); other tribes—for instance, the Caffirs—keep their provisions in pits. For grinding the grain a rough hand-mill is used, which consists of a flat hollowed stone and a small round one, the latter serving as a crusher (*pl. 86, fig. 3*). An ingenious apparatus for crushing is shown on Plate 88 (*fig. 15*).

The Bantu sit on the ground or on small stools, which in the south have three legs, and in the east four (*pl.* 88, *fig.* 14); there is seen along the eastern coast an oblong structure of plaited work, called *kibani* in the Suaheli language, which serves as a table during the day and as a bed at night (*pl.* 88, *fig.* 10); the more barbarous tribes sleep on the ground, resting their heads on a round hollow piece of wood. Other conveniences for the house, as a rough kind of rack on which to hang articles, are shown on Plate 84 (*fig.* 2) and Plate 86 (*fig.* 2).

The Bantu have articles of iron, among which are the simple needles (without an eye) with which the Betchuanas bore the skins they wish to sew together. These needles are carried about the neck in small decorated cases of skin (*pl.* 84, *fig.* 8).

Iron-Smelting.—The art of smelting and working iron has long been known to the Bantu, but the preparation of steel is unknown. In the north and east of this district the iron is smelted in small furnaces and sold in bars to the southern tribes. It is heated by means of an odd bellows: two closed leather bags with wooden handles are connected by a pair of cow's horns with a horn pipe leading to the furnace. The alternate opening and closing of the bags supplies a continuous stream of air. These bellows are used throughout the entire district. The one that Livingstone saw in the country of the Batoka (*pl.* 86, *fig.* 8) was somewhat different. Clay pipes took the place of the cow's horns; the leather bags were fastened to wooden drums, and were alternately pressed in and drawn up by means of a perpendicular stick. But the arrangement by which fresh air gets into the drum was not described by him: probably the leather opens when drawn up and closes when pressed in. The glowing iron, held with rough tongs, is forged by stone or metal hammers, and is made into various utensils and implements, such as weapons—often with artistic barbs (*pl.* 89, *fig.* 4)—spoons, hoes, knives, etc.

Weapons.—The assagai (assegai, hassagai) is the chief weapon of all these nations. It is used either for throwing, and is in that case light and has a pointed shaft, or for thrusting, and then the shaft is thicker and even. The point is a long iron rod, which is tightly fastened with straps to the shaft. The model of this assagai varies: among the Betchuanas and in the north it is a little heavier than among the Caffirs, and the iron point is supplied with several barbs (*pl.* 84, *fig.* 6; *pl.* 85, *fig.* 9; *pl.* 86, *fig.* 16).

The lance of the Suahelis (*pl.* 88, *fig.* 12) is very long, and is formed exactly like the lances of the northern peoples (*pl.* 96, *fig.* 1). All the Bantu nations have a wooden club which they use for throwing (*pl.* 84, *figs.* 5, 6)—the *kirri* of the Hottentots, which foreign name it also bears among the Caffirs. They also obtained their small striking-rod from the Hottentots. Battle-axes of various forms are found everywhere in the east, but in the south only among the Betchuanas (*pl.* 86, *fig.* 15), who have also that dagger-like knife (*pl.* 86, *fig.* 14) which is seen elsewhere (*pl.* 88, *figs.* 3, 6, 7), and which is enlarged into a sword by the Ediyahs on

Fernando Po (*pl.* 92, *fig.* 8). Bows and arrows are not found in the south, but they are used by the Hereros and elsewhere in the west and east (*pl.* 86, *fig.* 9; *pl.* 88, *figs.* 4, 5; *pl.* 89, *fig.* 4); the natives are not very skilful in their use.

The arrows are generally poisoned, and those of the Manganyas and Ayawas (nations between Lake Nyassa and the Zambesi, belonging to the Makua) are so arranged that the cane shaft to which the poisoned point is attached falls off after wounding (*pl.* 89, *fig.* 4). The bow of the Maravi on the Zambesi is odd: by a broadening of its two ends it is made to serve also as a shield (*pl.* 86, *fig.* 9), but it is little qualified for this purpose.

The shields of the Caffirs are large, round, and made of ox-skin, which is sewed to a wooden frame (*pl.* 85, *figs.* 6, 9); those of the Betchuanas are oddly curved; and both of these tribes decorate their shields with fur ornaments, which often project (*pl.* 84, *fig.* 6); in some districts—for instance, with the Hereros—shields are not in use.

Hunting and Fishing.—Bows and arrows are generally used in hunting. At Sena, on the lower Zambesi, a peculiar harpoon is employed for the capture of the hippopotamus: when the barbed point has struck the animal, the shaft, which is fastened to the point by a long cord, is detached and floats on the water, thus indicating the precise location of the wounded animal (*pl.* 86, *fig.* 13). All the Bantu nations are skilful in tanning and preparing skins, and are able hunters, both in direct attack upon dangerous animals—lions, hippopotami, buffaloes, etc.—and in the use of crafty stratagems. They use pits in which to capture the large animals. At present firearms are almost everywhere used for hunting and in war. Fishing is also extensively carried on with fish-baskets of various kinds (*pl.* 86, *fig.* 5), and on Lake Nyassa with hand-nets (*pl.* 86, *fig.* 10) seven feet long; however, many nations eat no fish.

Agriculture and Implements.—Among the southern tribes farming is wholly left to the women; among the Basuto the men also take part (*pl.* 84, *fig.* 7), and among other tribes—for instance, the Manganyas, the Hereros, and the Ovampo—men and women labor together. The chief farming implement is a peculiar hoe with a long handle (*pl.* 84, *figs.* 4, 7; *pl.* 88, *fig.* 16); the Manganyas, however, have hoes with short handles (*pl.* 86, *fig.* 6); and other tools are found, as along the western coast some with two handles, so that they can be used with both hands. The soil is cleared negligently and fertilized with vegetable ashes, more rarely (among the Ovampo) with dung; and when it has been slightly scratched the sowers scatter the seed, which others, following in a long row, hoe in (*pl.* 84, *fig.* 7). Their farming is primitive, but they exhibit some skill in the details.

The Batoka plant trees; the Caffirs surround their fields with close thorn hedges, and have male or female field-watchers and several inventions to keep away birds and other animals. In the south maize and doura are the principal products, and also beans, pumpkins, and various

kinds of tobacco and dacha-hemp are raised; while in the north and east manioc, groundnuts (*Arachis*), yams, batatas, and cotton are cultivated. The harvested grain is taken home and threshed on clay threshing-floors (*pl.* 83, *fig.* 2, the light-shaded enclosed field to the right), and is then preserved in the storerooms.

Cotton.—Some of the eastern nations raise cotton, spin it into a close yarn, and use it for weaving in the manner of the Malagassies (*pl.* 90, *fig.* 6). It seems that this art came to them from the Malagassies or some other eastern source.

Stock-Raising.—Stock-raising ranks higher than farming, and is principally the work of the men, although the women assist. The southern tribes and the Hereros have nothing more valuable than their cattle, for goats and sheep are rare. The Makololo are especially skilful cattle-raisers. Oxen are used for riding, for carrying loads, and for driving, the bridle being put into the pierced cartilage of the nose. The flesh is consumed only on special occasions, but milk constitutes the principal article of food, adults preferring to use it after it becomes sour. It is kept in wooden vessels or in leather tubes.

Food and Stimulants.—We have already treated of the food of these nations (p. 314); it is broiled at the open fire or cooked in pots (*pl.* 90, *fig.* 6); fire is kindled by friction (*pl.* 84, *fig.* 2). They have spoons and shovels with which the food is dished out and eaten (*pl.* 84, *figs.* 12-14); the handles of these are often carved into figures of animals (*pl.* 84, *fig.* 14). Intoxicating drinks are much brewed, chiefly a kind of beer from doura malt, and in the east palm wine is made. The Bantu are given to intoxication.

Their main stimulants are smoking and snuffing, either the national dacha-hemp or tobacco, which is extensively known. A pipe of the Basuto is illustrated on Plate 84 (*fig.* 9), and that of the weaver on Plate 90 (*fig.* 6) is of similar construction. In the Basuto pipe the leaves are in the small head of the side tube; the cow's horn into which the side tube enters is filled with water, and by closing the opening of the horn with the mouth and cheek (comp. *pl.* 90, *fig.* 6) the smoke is inhaled and swallowed. The effects of this manner of smoking are so powerful that the smokers frequently become unconscious. The strongest tobacco is preferred by the Bantu. If a person is without his pipe, he kneads a lump of clay on the ground, puts the weed into a hole on top, and, applying his mouth to an orifice in the side, smokes lying flat on his belly. The Caffir tribes smoke generally in company; with them it seems to be connected with ancient religious ideas. They snuff from small spoons of ivory or metal (*pl.* 84, *fig.* 10), and always carry their tobacco either in small bags or in boxes often of an animal-like shape (*pl.* 84, *fig.* 11). Various prohibitions of food prevail among these nations, one tribe being forbidden to eat this animal, another that. The Caffirs, for example, do not eat fish, and consequently accomplish nothing in fishery.

The Caffirs have no ships, and, like most of the southern peoples,

they cannot swim well. The case is different among the inhabitants along the large rivers and on the eastern coast; but the shipbuilding of these eastern tribes (*pl.* 88, *figs.* 8, 9) is only a consequence of their intercourse with the Arabians. All Bantu nations exhibit great capacity for mercantile enterprises.

Art and Musical Instruments.—These tribes accomplish little in art. We have already mentioned (*p.* 312) that paintings representing animals are sometimes met with in the huts of the chieftains, and these are their highest achievements in the line of decorative art. The musical instruments of the southern tribes seem to have originated with the Hottentots (Waitz); the widest spread is a single-stringed instrument which has on one end a calabash for a sounding-board and which is played with a bow. It is seen in different shapes: Plate 86 (*fig.* 11) represents it as it is used on the Zambesi and the Shire, with a string that can be tuned by a peg, while at other places this is effected only by the manner in which the instrument is held. Drums, pipes, and Pan's flutes (*pl.* 83, *fig.* 1) are common in the east; among the Batoka (on the upper Zambesi) the *sansa* (*pl.* 86, *fig.* 7) is used, the nine keys of which, made of iron or of bamboo splinters, are played with the fingers, the sound being strengthened by a calabash serving as a sounding-board (*pl.* 86, *fig.* 4); the *marimba* is very similar: hard wooden rods are placed on calabashes of various sizes, so as to increase the sound, and are struck with sticks (*pl.* 83, *fig.* 1).

Singing and Dancing.—The Bantu play for hours on their monotonous instruments, and they also sing much. They scarcely have true poetry, but they like to sing diffusely in an extemporaneous manner about the occurrences of the day or in praise of their animals or their chieftains. They dance with pleasure, generally the men only, the women looking on while clapping their hands and singing. The general purport of the dances, which often last very long, is imitation of war and the chase (*pl.* 85, *fig.* 9). The women have their own dances.

Domestic Life and Habits.—The position of the women is not favorable. We have already said (*p.* 314) that it is their duty to perform the hardest work, such as housebuilding, making the enclosures, field-labor, getting the fuel and provisions and preparing the latter, and caring for the children. The men hunt, take charge of the stock, dress the skins, and go to war; they sometimes assist at farming, as do the women with the stock.

The wife is purchased, and polygamy prevails. A man is allowed as many wives as he can buy. Chieftains consequently have a great number, and old men often buy young wives. One of the wives is looked upon as the highest in rank, and is called the "great woman." Among some tribes concubines are freely allowed. Sometimes there are no marriage ceremonies, except great feasts given by the bride's father; among the Kambas (north-east) the bride is captured in a sham battle with her relatives. Among the Caffirs the daughter-in-law is not allowed to pronounce the names of her father-in-law and the male relatives of her hus-

band in an ascending line, and she must even avoid words of a similar sound; nor is she allowed to associate with them: the same remarks apply to the husband and the mother-in-law. Marriage is easily dissolved, but the children remain the property of the husband, and if the separation be his fault he must return to his father-in-law a certain number of cattle. Adultery does not often occur, and it is generally punished by a mere fine. Examples of devoted love are seen even among the most barbarous tribes. In the east the wives occupy a higher position, and possess rights as well as their husbands; Krapf even found among the Sambaras (north-east) a woman occupying a high political station. Lichtenstein states the same of the Caffirs.

A widow is considered impure for one month after the death of her husband, but she may marry again; the care of her devolves on the oldest son if he be an adult, or on the brothers of her husband. She has perfect sexual liberty as long as she remains unmarried, as also have the girls. In general, the females of the more advanced tribes are chaste and reserved. When one is asked whether she is married or not, she points to her bosom, which only unmarried women are allowed to have uncovered. In this there is not the slightest shamelessness. The tribes which have come in contact with the great stream of the world are far more corrupt.

Infanticide is frequent among the Caffirs; misshapen children and one of twins are always killed; the casting out of the old and dying is also customary. However, traces of true family attachment are found among them, especially among the eastern Bantu tribes and the Hereros. Children receive a kind of education; that is, they are instructed in necessary things; they are nursed for a long time, and remain with the mother until they are eight years old; they know the same infantile games as are in vogue among European children. No child is allowed to eat with its parents, it being deemed impure until solemnly received into the society of adults.

Births and their Attending Ceremonies.—Shortly after birth certain ceremonies are performed over the child, but the feast of manhood, at which the boys of most of the tribes are circumcised, is the most important. The girls have to undergo a similar ceremony as soon as the first signs of puberty appear. After the feast of manhood, at the end of which the boys are driven into the water, they are considered pure, and live together with the other unmarried folks, with whom they sleep, the sexes being separated. Those who attain manhood at the same time often form a lifelong association, and among the Hereros they have their wives in common.

The State.—The constitution is based on the family. The father has absolute power over his family, and in like manner the chief is absolute in the state, for the tribe is but a widely-branched family. The dignity of chieftain is inherited by the oldest son of the principal wife; the younger sons are the chiefs of those who celebrated the feast of manhood with them. These, settling down independently, form new villages or new clans, but they are in strict dependence on the chief of the tribe. The sovereign

power of the chieftain is based on this constitution, and is exercised not only by the king over the whole nation, but also by the inferior rulers over their respective subjects. The king has a council composed of six or eight of the principal chiefs, the *induna* or *amapakati* or (among the Caffirs) *inkosi*, but they do not constitute a check upon his power, as they merely execute his commands, and they are generally appointed by him. The people, however, exercise a kind of restriction on the royal power, as they may leave him in case he violates custom and right.

This constitution prevails among all Bantu nations. Among the Betchuanas the power of the king is restricted by the *pitsho*, an assembly of all the chiefs which meets at a fixed place in the centre of the kraal (*pl.* 83, *fig.* 2), and which has the right to criticise and attack the political measures of the king. In general the subjects speak of the chief in the most extravagant terms, and some tribes swear by him. He has no exterior mark to distinguish him from the other members of his tribe, or, at the most, only a kaross of panther-skin (*pl.* 84, *fig.* 5), though in Central Africa the *Cazembe* wears a more costly costume and has more ceremonies.

Laws, Punishments, and Ordeals.—The chiefs pronounce the highest judicial decisions. Those of less importance are declared among the Amakosa by the *amapakati* or lower chieftains, but murder, theft, adultery, intentional abortion, and magic are punished by the king. Capital punishment is inflicted for the last-named crime. Among the Amakosa and the Hereros the other offences mentioned may be atoned by fines, though formerly they were punished by death or mutilation, as is still the practice with the other Caffir and Bantu tribes, among whom only small offences are punished by fines. Most of the tribes are truthful in legal proceedings. Different ordeals (by fire, water, or poison) are applied in the east. Joint responsibility of the family and blood-revenge prevail, or did prevail, everywhere.

Wars.—The chieftains have often acquired great power by their wars. They are commanders-in-chief in war, and, as the Bantu nations are generally warlike, some of the sovereigns have become mighty conquerors. The Zulu princes Tshaka and Dingaan, Gaika, the sovereign of the Amakosa, and Sebitoane, chief of the Motchuana, are well known: the kingdom of the now powerless Cazembe in the interior (see *Map*) and many similar states may have originated from such conquerors. The history of these tribes has become complicated on account of their numerous wars of conquest.

The men decorate themselves gorgeously when going to war (*pl.* 85, *figs.* 6, 9): a decoration of animal tails (*pl.* 88, *fig.* 17) or a flag-like ensign distinguishes ambassadors and chieftains, who are spared during the battle. War is proclaimed, and the army marches off after performing religious ceremonies and war-dances. Although these tribes like sudden attacks and stratagems, still open battles are common and sanguinary. Women and children are generally spared, except among some Caffir tribes. It

cannot be denied that the Bantu nations exhibit great valor in war, and, with all their barbarity, not unfrequently show nobility of mind. Traces of cannibalism have been found among them, and the Batoka and the warriors of the Cazembe are eager to obtain the skulls of the enemy; but there are also unwarlike tribes among them, as the Herero. Even in the wars against the Europeans, although all their passions were excited, the Caffirs did not show themselves bloodthirsty or cruel. The great wars conducted by Tchaka were less humane, but this was owing to the peculiar character of that king.

The Caffirs never carried on wars in order to make slaves, and the slave-trade and slavery are unknown to them. Neither have the Makololo anything of the kind. In the east and west the slave-hunts, which are now common, originated from foreign influence. This is not the place to speak of the inhumanity of the slave-hunters and slave-traders: it suffices to point out the manner in which the unfortunate victims are transported (*pl.* 83, *fig.* 6). They are tied in pairs, with the slave-yokes about their necks, and are fastened together with chains (*pl.* 83, *fig.* 6; *pl.* 86, *fig.* 12). The lot of the slaves among the tribes of the interior is not a severe one, as they belong to the family. It is much harder along the coast. War-prisoners are enslaved by the southern tribes, and constitute a separate caste from the free persons.

Death and Burial.—Even at his death the chieftain's lot is better than that of others. He is always solemnly buried. The other dead were simply carried to desert places, where the beasts of prey devoured them. This is frequently the case even at present; but generally the dead are buried in narrow ditches, either within the kraal (among the Betchuanas in the animals' kraal) or near it, in a squatting position, the face turned to the north or east (*pl.* 85, *fig.* 8). Among the Betchuanas the corpse is not carried out through the ordinary door, but through another made for the purpose, and is placed in a side-vault of the tomb. Loud lamentations of the women are heard at the death and at the funeral. The graves of princes are guarded for a while, sometimes for a year. These tribes cut off their hair as a sign of mourning, and wear a necklace made of the hair from the tail of an ox—one is also put on new-born children—until it falls off (Lichtenstein): in the same manner the Manganyas hang strips of palm-leaves about themselves (Livingstone).

The Manganyas break all the utensils and destroy all the provisions belonging to the deceased, and Lichtenstein reports that the Amakosa have the same peculiar custom. We have already seen this custom in Polynesia (p. 201). The house of the dead is no longer used; perhaps also the whole kraal if the deceased has died within it. This is the practice among the Hereros at present, but in other places the custom has been modified. They take particular care to let no one die within a house, and consequently the dying are carried into the open air. There is no lack of offerings for the dead: his weapons are placed in the grave with him, and in the case of a chief several animals from his herd

are left at the grave for his use. Formerly, at the grave of the Cazembe—and also among some tribes—slaves, and even wives, were slain, and human skulls were heaped upon the grave.

Religious Views.—In these descriptions we have indicated some of the religious views of the Bantu tribes. That the people were originally considered unclean in comparison with the chief is shown by many customs. Women and children are held to be less pure than men, and all women are impure during parturition and menstruation. Defilement is produced by touching a corpse or anything relating to the dead, and by slaying a lion or an elephant. If the kraal is struck by lightning, the entire kraal becomes impure. Water and the blood of animals of sacrifice are used for cleansing the impurity.

This condition of "uncleanness" should rather be called a state of consecration or interdiction, for those who have been consecrated by contact with anything sacred are excluded from ordinary people. Thus, those who have slain lions are consecrated by their relation to the lion. Similarly, their relation to the dead consecrates widowers and widows. They are restored to ordinary communion with their fellow-beings only by a ceremony of secularization.

The men are considered more sacred than the women and the children; consequently, the latter must be consecrated at the feast of manhood before being received among the adults, and for the same reason women are excluded from many things that are prominent in the lives of the men. But they also have their periods of consecration (the time of giving birth, etc.), from which they must be liberated. Here, as in Polynesia, objects are interdicted or "tabooed," being thereby made holy and withdrawn from use.

Superstitions.—A belief in the future life and in guardian spirits generally prevails. The latter usually show themselves in the guise of animals, and thus the prohibitions of food which we have already mentioned (p. 315) may be explained, for to eat the animal which is the incarnation of a guardian spirit would be a crime which would be punished with sickness—that is, with being possessed by evil spirits. The Caffirs eat no fish, because they imagine them to be water-snakes; and snakes are everywhere in South Africa believed to be one shape assumed by the guardian spirits or souls. The crocodile and hippopotamus are believed to be evil spirits.

Each tribe of the Betchuanas has some animal in which it sees its "ancestor," from which it takes its name and which it celebrates by solemn dances. Many tribes are named after these animals. Thus the name Ba-kuena signifies "crocodile people;" Ba-tlapa, "fish people;" Ba-katla, "ape people;" Ba-tuang, "lion people;" Ba-tsetze, "tsetze-fly people;" but there are also "iron people" (Ba-tsipi, Ba-rolong), and some tribes are considered to be sacred; as, for example, the otherwise powerless Ba-hurutse.

The Hereros are divided into different "families" (*c-yanda*), each of

which considers some plant as sacred. By the question, "What do you dance?" one learns to which tribe the party addressed belongs, for the answer will consist of the name of the animal after which the tribe is called. The belief in "ancestral" animals prevails among all the Bantu nations. Guardian spirits and souls are not always distinct. The latter are feared, as is shown by the funeral customs of the Caffirs; but many offerings are brought to them and prayers are addressed to them among the Wanikas and Tshagas in the north-east of this district, the Manganyas, the Betchuanas, the Zulus, the Amakosa, the Hereros, and others. The Bantu everywhere believe in men who can change themselves into animals, and in other ghost-like beings.

These ideas are by no means clear to the Bantu nations, and least of all to the southern tribes. The clearest idea is that of guardian spirits who settle in animals or in other objects. Thus we have pure fetichism. Hidden under these rude ideas there are others, which, though obscure, may nevertheless be recognized. "The religious system of these peoples," says the missionary Moffat, "has entirely disappeared, as their rivers disappear in the sand;" and this is very true. Yet there are some traces of it remaining. Thus, the nocturnal dances at the time of the full moon and others at the time of the new moon, and also some myths about the sun, seem to indicate an ancient worship of the heavenly bodies. They also know and venerate many stars.

The Amakosa esteem one of the spirits of their ancestors particularly powerful. They call him *inkosi*, "chief, master," and they represent him as casting down the lightning (Fritsch). The *Mo-rimo* (literally, "He above") of the Betchuanas is described by the magicians as an especially powerful and generally hostile being. The Betchuanas say that they themselves do not care about such things, but that their ancestors knew much about him. His name is mentioned in connection with the creation of all things: he is said to have proceeded, with the human race and the animals, from a large cave in the north, and for this reason the dead are buried with their faces turned to the north.

Other tribes (Hereros, Zulus) derive the origin of all beings from a kind of world-tree, a sacred aboriginal stem. Toward the east and the north-east we find a clearer idea of a supreme being: he is called *Mu-ungu* by the Suahelis and *Mu-lungu* by the Makua. From this it would seem that the Bantu had, besides their animistic and ancestral cult, a veneration of heaven and the heavenly bodies which in time gave way to the ancestral cult: for this reason the originally supreme gods are described as having been former chieftains.

Magicians and rain-makers are everywhere important personages. The former constitute several classes, and one of them is a sort of high priest over the others. They cure diseases, are fortune-tellers, and detect and frustrate witchcraft; the belief in them is firm, and they are of supreme importance in the entire life of these peoples. They initiate everything: warriors and animals are rendered invulnerable by a black cross which the

priest paints on them—among the Caffirs it is put on the forehead of the warrior (comp. *pl.* 86, *fig.* 20; *pl.* 89, *figs.* 5, 6). Offerings are everywhere made to the spirits of ancestors, whom the Hereros represent by little rods, each "family" (*c-yanda*) taking for this purpose the rods from the branches of its sacred plant. The Tshagas are said to have idols.

Political Development.—After what has been said it will be seen that the character and ability of the Bantu are good. The kingdoms of interior Africa, as well as the able achievements of some of the Herero sovereigns, show what they can accomplish in politics. They have maintained their place against European culture, and can rarely be outwitted by the whites. In their political conventions they often exhibit eloquence; and they have frequently embarrassed the missionaries by their sceptical but sagacious questions. In ordinary life they are active and impulsive. They are but slightly accessible to the teachings of the Christian religion, as they concern themselves little about religious questions.

Moral Development.—In regard to their moral qualities, they are brave and do not lack a kind of high-mindedness. They exhibit a sense of honor and of justice. We have seen (p. 318) how severely they punish theft, which, however, is of frequent occurrence; and avarice and begging are now prevalent among the Caffirs, though less so in the east. They are generally truthful, especially the inland tribes. Although the Betchuanas never contradict and are outwardly polite and friendly, they are by no means always sincere. They do not value human life, and consequently they are generally heartless and cruel to the suffering; all the more so as superstition prompts them to it. But they are not really bloodthirsty, neither are they revengeful or resentful. Hospitality and industry are largely found among them where they have retained their native character, and they are no more dissolute than peoples in a natural state are wont to be.

On the whole, therefore, our judgment about the Bantu must be favorable: they are a gifted race, and have attained in civilization what was possible in the geographical and historical circumstances in which they live, and much good may be expected from them in the future.

3. THE PEOPLES OF SOUDAN.

Classification.—No part of Ethnology is more difficult than that which treats of the Negro. We have indeed on one side a boundary-line separating the Bantu nations from the Negroes, but other difficulties oppose a precise classification.

First, the physical type. The Hottentots and the Caffirs are indeed physically different from the tribes along the Senegal and the Gambia; but, on the other hand, Schweinfurth finds the appearance of the equatorial dwarf people, the Akkas, so like that of the Bushinen that he scarcely dares decide whether they ought not to be put into one ethnological division with them. So the north-western and north-eastern Bantu nations often exhibit so great a likeness that to distinguish them by their physical

peculiarities is scarcely possible. Second, language does not serve as a distinction. Vidal, Bleek, Norris, and other competent students of the African languages and peoples number the languages along the Old Calabar River and the Yoruba, the Ashantee, even the Bullom and other tongues of the coast of Sierra Leone, among the Bantu languages, and consequently the inhabitants among the Bantu nations.

Language.—An investigation of the Timne language (Sierra Leone) and of the Ashantee dialects shows the same structure in them as in those of Congo and Mozambique. In the Odshi, which is spoken by the Ashantees, we find the same division of substantives into certain classes, the first consisting of collective words, the second comprising individuals, either neuter and inanimate or personal and animate; and these classes are distinguished by certain prefixes, and prefixes also form the plural of each of the classes mentioned. Thus, *en-su* is "water;" *en-lakua*, "tuft of hair;" *em-pabua*, "a pair of sandals;" *a-fafanto*, "butterfly;" *a-gwa*, "chair;" *o-gwañ*, "sheep;" *o-berre*, "woman;" *en-* is at the same time the plural form for (grammatically) inanimate objects: *cñ-gwa*, "chairs;" *em-fafanto*, "butterflies;" while the class with the prefix *o* forms the plural with *a*, thus *a-berre*, "women."

The tenses also are formed by prefixes which come immediately after the pronoun: *mi-ko*, "I walk," but ¹*m-* ²*a-* ³*ko*, "¹I ²have (sign of the perfect tense) ³walked." The structure of the Bantu verb is exactly like this: ¹*Ni-* ²*me-* ³*penda*, "¹I ²have (sign of the perfect tense) ³loved." The addition of various suffixes to the noun (for instance, to form diminutives) and to the verb (for the formation of cases, etc.) is in the Odshi much the same as in the Bantu tongues; and if we find no likeness of roots in these two districts, this is of no significance in the ethnologic relation of languages, as we have already explained. The original connection of the languages is only removed to an earlier period. Thus it seems that we ought to assume with Bleek a relation between the Odshi and the Bantu languages.

The Ehwe language along the Slave Coast and the Yoruba are rather closely related to the Odshi, while the Yoruba exhibits the same phenomena as the Odshi. We find in the Ehwe the same fundamental traits, but undeveloped: the nouns are distinguished from the verbs by a vowel prefix, *a* or *e*, between which no definite distinction can be made. Many additions are made in forming substantives, and suffixes are also of importance in the formation of verbs. Almost all the forms of the languages of Soudan—the Vei, the Mande, etc.—are by suffixes, so that the languages of this territory, in contrast with the southern *prefix* languages, have been called *suffix* languages. The Ehwe exhibits the peculiarities of both.

The use of prefixes to form substantives is found in other Central-African languages, as in the Volof in Senegambia, and also in the east, in the Kanuri in the northern and western vicinity of Lake Chad, where abstract words (and, as in the Bantu languages, the so-called infinitive) are formed by prefixes, the same languages having a number of other

forms with suffixes. The employment of prefixes is found at various places in Soudan, but it lacks one trait which unites the Bantu languages and forms their vital principle: the agreement of these prefixes in the forms of words logically belonging together, the adjective and the verb taking the same prefix as the noun.

It looks as if the South-African languages had separated from the Negro tongues by making the prefixes and their grammatical agreement the predominant trait of their languages, while the languages of Soudan show only germs of such formation. Certainly such languages as the Odshi, Yoruba, Bullom, and Timne are intermediate between the Negro and Bantu stocks.

We can thus determine the Negro district on the south: those nations in whose languages the syntax is based on the agreement of the prefixes belong to the Bantu stock, and those whose languages do not show this agreement, even though they otherwise make use of the prefixes, belong to the Negroes.

It is far more difficult to draw the boundary of the Negro territory on the north and east. Even in historical times the Negroes have occupied tracts of land more to the north than at present: we find them spread throughout the oases of the desert as far as to the Atlas Mountains, from which they were gradually driven by Berber tribes. The Tedas (Tebus, Tibbus), a Negro tribe, have maintained their place as far north as Fezzan even to the present day. Naturally, as a consequence, intermixtures of various kinds have occurred in the north, even with the Arabian conquerors. Toward the east the Negroes come in contact with the Nubian, the Abyssinian, and the Galla nations. What makes an ethnological division so difficult on this side is the gradual passing over of one national type into the other.

The boundaries are vague or entirely absent. This holds good as to the physique, as to customs and usages (comp., for instance, *pl.* 92, *fig.* 20; *pl.* 99, *fig.* 2, with *pl.* 84, *fig.* 2; *pl.* 86, *fig.* 2; *pl.* 100, *fig.* 1, with *pl.* 98, *fig.* 6, and *pl.* 100, *fig.* 5), and as to language. Some of the Central-African idioms show much similarity to those of North-east Africa, even with the Semitic languages. To this, for example, belong the manner in which the personal pronoun is inseparably prefixed to the verb in the Hausa, Kanuri, and Tibbu, and the suffixing of the possessive pronoun and the union of the pronominal object with the verb: for example, in Hausa: ¹*Kāncn-* ²*ta* ³*ya-* ⁴*tafifi*, “²Her ¹brother (³he) ⁴walked;” ¹*Nā-* ²*ba-* ³*ka*, “¹I ²give ³to you.” It is still more striking that in the Kanuri and the Tibbu the sign of the person of independent verbs is *prefixed* in the third person, but otherwise *suffixed*: Kanuri, ¹*Andi* ²*di-* ³*yen*, “¹We ²do (³we);” however, ¹*Nandi* ²*tsa-* ³*di-n*, “¹They (²they-) ³do.”

The Hausa makes even a precise distinction as to gender, and has different forms in the second and third persons of the verb for the masculine and feminine subject: *gaba*, “he gives;” *taba*, “she gives.” However, these tongues so closely coincide in their most important traits with the

remaining Negro idioms that they cannot be separated from them. The strangest transitions are found toward the north-east, and they are very difficult to explain.

But this is not all. In the interior of Soudan we find a number of tribes which, related among themselves, are very unlike the Negroes in their physique, and are distinguished from them by all writers. These are the Fulah, Pul, Peul (*pl.* 91, *figs.* 6, 7, 10, 11), who are called Fellani in Hausa, Fellatah in Bornu (*pl.* 92, *fig.* 3), and Fulah in Mandingo: *pul* means "light brown"—therefore *pul-be* or *ful-be*, "the brown ones"—and from these plural forms the above names have been derived.

The Fulah dwell along the middle and upper part of the Senegal and the Gambia, from Futa-Toro to Futa-Jalon; they have spread through the districts between the great curve of the Niger as far as Timbuctoo, also from the district of Yoruba throughout Hausa, where they are very powerful, as also in Bornu. They extend to Adamawa south of the Benue and to Waday; their extreme eastern point is Darfur, perhaps even some tracts on the White Nile. Consequently, wherever we find Negroes we also have the Fulah; and it is natural that we should find many transitional forms between them and the Negroes proper as the results of intermingling.

But it becomes more difficult to comprehend that gradual transition between the Negro and Fulah types should be observed where the Fulah live without intermingling, and that some unmixed Negro tribes should resemble them in stature and color. Here language must pronounce the decision. Their tongue is remarkable. We find again the prefixing of dependent pronouns to the verb, and the annexing of suffixes to denote the tense: ²*Menon* ²*min*-³*nyama*, "²*We* ²(we-) ³eat;" *nyam-i* is the past tense. Even traces of distinction of genders are noticeable in the verb (Barth).

It is noteworthy that the nouns are divided into classes by means of suffixes, and this division is made according to their meaning: the suffix *um* distinguishes objects, *o* persons, *ir* places where something is enacted, *am* liquids, etc.; for instance, *god-um*, "thing;" *gud-z-o*, "thief;" *d-zang-ir-de*, "place for reading," "school;" *ndiam*, "water;" *nebbam*, "melted butter." This similarity between the languages of the Fulah and of the Bantu becomes the more surprising from a kind of concordance between the noun and the adjective; adjectives relating to persons end in *o*; if they relate to an animal, the termination is *gu* or *da*; if to a liquid, they end in *dam*: *nedo tsomdo*, "the quick man;" *putsu tsongu*, "the fast horse;" *ndiyam guldam*, "warm water." Though the effort for a similarity of sound may have contributed to this concordance or have been its cause (Barth), nevertheless language has formed of it a grammatical principle, as is evident from the fact that in the adjectives some of the suffixes may become prefixes; *nedo mo-kullul*, "the timid man;" *putsu gu-koido tsoida*, "the fleet horse." The plural of the nouns has countless suffixes, with which the adjectives must always agree; here the endeavor to mark the plural by a change in the first sound is perceptible, just as in the Banta

languages the first letter as well as the prefixes is changed; *demmo-wo*, "farmer," plural *remmo-be*; *gor-ko*, "woman," plural *wor-be*.

The Fulah exhibits the same principles of construction as the Bantu languages, but in the manner of the Soudan, not in the initial sound, but in the suffix, the really formative element of the Negro languages, although we here meet with the tendency to employ also the first sound, as we have found it more developed in the other Negro languages. That the Fulah is entirely a Negro language is apparent from its close relation to the tongue of the Yolofs. This relation, if the various dialects of the Fulah and the idioms related to the Yolof language be taken into consideration, extends not only to the inner structure, but also to a large portion of the vocabulary, which is not borrowed. Consequently, the Fulah are a Negro people.

We also find in the Fulah numerous points of contact with the eastern languages; for instance, the Galla. The formation of the passive voice is, with the exception of the suffix, alike in both languages; indeed, all Negro languages are very much like the Galla in the formation of this voice. The verbs and nouns, in the Galla as well as in all Negro languages, are so little separated that many of the roots can serve for both. In the use, and even in the form, of the pronoun many points of agreement are found; yet the Galla belongs to those languages which bear a plain relation to the Semitic. We therefore repeat this important statement: a precise delimitation of the Negro languages in any direction is not possible. It may be added that these languages make frequent and often odd use of reduplication, and that a negative verb is everywhere found.

After these remarks we can draw a closer boundary around those peoples whom we call Negroes, and at the same time class the Negro tribes in groups. We have already drawn the southern boundary (p. 324). In the north the boundary coincides as far as the thirtieth degree of longitude with the border of the desert, to which the Negroes were forced to retreat by the Berber tribes. The latitude of about Timbuctoo, and a line from the south-eastern curve of the Niger to Lake Chad, separate the main mass of the Negroes from the North-African peoples. North of this line there extends a broad tract inhabited by mixed tribes about whose original nationality little can be decided. East of the thirtieth degree the country of the Tibbus begins, extending as far as Fezzan, and consequently far to the north. It is difficult to determine the eastern boundary. Darfur and Kordofan are still occupied by Negroes, who reach the Blue Nile at Sennaar, and thence extend as far as Lakes Mwutan (Albert Nyanza) and Ukerewe (Victoria Nyanza). A line drawn from here to Calabar separates them from the Bantu tribes, but on no side can a distinct boundary be drawn.

Groups.—Among the Negro peoples individual groups can be distinguished, which we shall arrange principally with reference to their language, retaining as much as possible the names given by Koelle:

(1.) The *Atlantic Group*, which comprises the north-western coast

inhabitants, the nations of the coast of Guinea, and the tribes of the Niger Delta. Among the north-western peoples the following are the principal: The *Sarrars* (Sereres) on Cape Verde; on the lower Gambia the *Feloots* (Aiamat); south of these, to the Rio Grande, the *Filham* and *Biafadas* (Tcholas); the *Papels* (Maniagoes) on the Bissagos Islands; the *Balantes* in the interior, east of the Tcholas; on the coast south of the Rio Grande the *Valas*, the *Tiapis*, and the remnants of the *Banyuns*, who lived on the Gambia two hundred years ago; and finally, on the Sierra Leone, the *Bulloms* and the *Timnes*.

Of the tribes on the Guinea coast, the most important are the *Krus* on the Pepper Coast, the *Avekvoms* and the *Grebos*, the tribes speaking the Odshi language, the *Ashantees*, the *Fantis*, the *Akras* (using the Gha language), and others; the tribes speaking the Ehwe language, the *Dahomans* with their divers dialects and tribes; and, finally, the *Yoruba* tribes, the *Aku* of Koelle, to whom belong the *Igaras* south of the confluence of the Benue, the *Nupis* (Nuffi) on the north, and perhaps also the *Ibos* of the Niger Delta, but these are more distantly related; also the *Yalas*, *Alan*, *Bimbias*, and others at the same place. In the languages of all these tribes the characteristic trait of the grammatical structure is the change of the prefixes.

(2.) *The Peoples of the Eastern Plateau of Soudan*, who dwell north of the Dahomey and Yoruba, extending to the right bank of the Niger, are, as far as the vocabulary of their language is considered, related to the Yorubas. But as the structure of their languages (they seem to employ the suffixes for the grammatical formation of speech) is too little known, it will be well to treat of them at present as an independent group, whose chief tribes are the *Tumbas* (Tombo), the *Moses*, the *Gurmas* to the east as far as the Niger, and south of these the *Legbas* and *Kiambas*. The Tumbos border on

(3.) *The Peoples of the Western Plateau of Soudan*, the *Mandingoes* (Mandengas, Mande peoples), to whom belong the *Sarakules* (Serechules, Serrakolets), the *Mandingoes* proper with their various divisions, the *Bambarras* on the upper Niger, the *Bambukis* on the upper Senegal, the *Kurankos* and *Susus*, and finally, more to the west than the last-named tribes, and dwelling on the coast between the Krus and the Bullom, the *Vei*, who moved thither from the interior plateau.

(4.) *The Northern and Central African Negro Tribes* form a group to which belong the *Yolofs* (Wolofs) and the *Fulah*, also the *Somrais*, the *Hausas*, the *Kanuris*, and, on the islands of Lake Chad, the *Budumas*, the *Tedas*, *Tebus*, or *Tibbus*, as well as the inhabitants of Logone, the *Mugus*, the *Wandalas* (Mandaras), and the *Bagirmis*; perhaps also the tribes of *Adamawa*, whose languages are as yet very little known; and finally all those who speak the *Maba* dialects, as well as the inhabitants of Waday, and perhaps also of Darfur.

As a matter of course, in so large a group subdivisions are formed; thus, the Yolofs and Fulah are closely related, and again the Kanuris,

Tibbus, and Budumas; but the language of the latter has been preserved quite independently and in its ancient form. Also those tribes belong more closely together whom Barth calls the Massa tribes—the Logone, Wandala, Musgu, Batta, and Marghi.

Connected with this division are the numerous small tribes lately united, in theory at least, under one government to form the so-called "Congo Free State," as laid out by Mr. Henry M. Stanley. Of these, the *Mussurongos*, *Basundi*, and *Zombos* occupy the banks of the Congo near its mouth; the *Bateke* and *Mbe*, the region around Stanley Pool; the *Mayakulia*, the shores of the Kuango River, an important tributary of the Congo; while the upper waters of that stream itself are peopled by numerous detached tribes, of whom we may name the *Balui*, the *Bakuti*, the *Watwa*, the *Bolombo*, etc.

It is unusual to class into one group the peoples we have mentioned under No. 4, but we are authorized in doing it, because all their languages show a similarity which does not result from borrowing. Thus, for example, the personal pronoun is of the same or similar origin in them all, dissimilar as they may appear at first sight. All coincide in the structure of the verb, prefixing to the verbal root an abbreviated form of the personal pronoun, which is preceded by the independent pronoun or the subject; for instance, Fulah, ¹*kan*-¹*ko*-¹*o*-²*nyami*, "he eat;" Sonrhai, ¹*anga*-*ta* ¹*a*-²*gna*; Hausa, ¹*ya*-²*tsi* or ¹*si*-¹*ya*-²*tsi*, where *si*, the ordinary pronoun for the third person masculine gender, precedes the dependent pronoun, just as it is invariably correct to say, *yaro ya-tsi*, "boy he-ate," "the boy ate;" Kanuri, ¹*si*-¹*tsu*-²*bu*; Tibbu, ¹*me*-*re* ¹*ke*-²*bu*; Logone, ¹*ni*-¹*na*-²*zum* (compare ¹*ni*-¹*a*-²*gim*, "he loves," where we have, besides *ni*, *a* as an inseparable pronoun); Wandala, ¹*a*-²*za* *ba*-¹*nganc*, which formation deviates a little in the independent pronoun *ba-nganc*, "he," being at the end; Bagirmi, ¹*ne*-¹*n*-²*sa-ga* (*ga* is the designation of the aorist); and Maba, ¹*ti*-¹*ti*-²*nya-re*, *re* again denoting the aorist. The roots *nya*, *gna*, *tsi*, *zu-m*, *za*, are originally alike, as *ny* in some of the languages is exactly the same as *ts* or *z* of others. This formation of the verb is found neither in the languages of the Mande people nor in those of the Atlantic tribes.

(5) *The Negroes of the Region of the Nile*, south of Kordofan to the Equator, the most northern of whom probably are the *Shangol* (Shangallas), as the extreme north-eastern part of Dar-Fertit is, in consequence of the continual slave-trade, depopulated. It is difficult to define how far to the north-east the Negroes are spread. No doubt more than one Negro tribe may be found there; but as only the most minute linguistic study can decide as to the relations of such fragments, we will leave this difficult question unanswered.

A little to the south, on the Nile proper, we find the *Shilluks*, next the *Nuers*, then the *Dinkas* or *Dangehs* with their diverse tribes and dialects; after these the *Elliams* (Kitsch or Kek) and others. To the east of these, on the 8th degree of latitude, in the southern part of Dar-

Fertit, dwell the ugly *Krej* tribes, who are called Fertit by the Furian Negroes of Kordofan; next, toward the south, the *Golos* and the *Djurs*; then the *Bongos*, or *Dohrs* as they are called by the Dinkas, or *O-bongs* as the Djurs name them. These latter, as well as the *Dembos* to the north of them and the *Bellandas* south of the Bongos, are migrated tribes of the Shilluks. South of the Djurs, and living on the same degree of latitude as the Bongos, we find the *Niam-Niam*, or *Sandehs*; more to the south, around Lake Albert Nyanza, the *Monbuttus* and *Akkas*. These are the most important of the eastern Nile tribes, the most southern of which Schweinfurth has made known to us.

According to language, all these tribes belong together, some closely, others more remotely. The Shilluk and Dinka languages form larger groups; it has also been asserted that there are two main divisions, the northern of which comprises the languages around the Dinkas, the southern the so-called Bari languages. We lack linguistic material to pronounce a decision on this point. This much is certain, that the eastern languages do not possess the ingenious construction of the verb of our preceding division; they simply prefix the pronoun to the verb, as in the Atlantic languages, and they also seem to coincide in their structure.

It is noteworthy that the language of the Bongos has a feminine, as also that of their neighbors the Djurs; but the forms of these languages are so independent that an influence of one on the other is not to be thought of. In this they are like the Logone and Hausa, which are distinguished by the same peculiarity. The principle of forming the feminine by the change of the vowels, and more rarely, but only in the third person, by a change in the first sound, is common to all. The Dinka bears resemblance in its vocabulary to the western languages, and has many other common properties with them.

Physical Characteristics of the Negro: Form and Color.—The true Negro type is found at but few places, and not universally. The dolichocephalic head with the small globular forehead (*pl.* 89, *figs.* 10–12; *pl.* 93, *fig.* 3) rests on a thick fleshy neck and hangs a little forward, as the occipital foramen is farther back than that of the European, while the spinal column is straighter, because the pelvis is not curved toward the front, but is perpendicular. This explains why the knees are generally curved, and why the calves are far up, projecting a little to the side, and not much developed. As the muscles of the upper leg are also undeveloped, and the legs are proportionately longer than those of Europeans, the stature of the Negro appears slender. The pelvis, although broader than that of the Bushmen, is comparatively narrow and small: Plate 1 (*fig.* 11, *c*) shows the outline of the pelvis of a Negress.

The foot is often flat, and the heelbone projects. Both the upper arm and the forearm, especially the latter, are longer than with Europeans; the hands of the Negroes, according to measurements by Weisbach, are not extraordinarily long; the hardness of the palm of the hand is produced by the peculiar formation of the skin. The skin is thick, on

account of the abundance of papillæ (*pl.* 1, *fig.* 9), velvet-like, soft, and always cool; in spite of its dark pigment, which varies from slate-color or leather-brown to the darkest black, it is sensitive to the heat of the sun.

Hair.—Down is almost absent, and there is but little hair generally; the beard grows late, and only about the mouth and chin (*pl.* 93, *fig.* 3). The hair of the head, invariably black and glossy, is distinctly marked, well defined as to its limits, mostly short, rather hard, and on account of its close curl of a woolly appearance. Sometimes it grows in tufts, the single tufts and strips being separated by bare spots, as is seen among the South Africans.

Stature.—The stature is generally large, and not rarely attains a height of 180 centimetres (70.87 inches); 160 centimetres (63 inches) is the average height; but there are entire tribes, especially in the east, which are much smaller—only 130 to 140 centimeters (51 to 55 inches). The bones are thick and heavy, especially those of the skull, whose extreme hardness makes it insensible to injuries which would be fatal to whites; in quarrels the combatants not unfrequently butt each other with the head.

Brain, Skull-Form, and Features.—The brain, although not the smallest of the species, is inferior to that of the European both in size and in the number of its convolutions. The form of the skull, the vertex being highly curved, is *hypsistenocephalic* (Welcker); the cheekbones project broadly (*pl.* 89, *figs.* 10, 11); the jawbones are decidedly prognathic (*pl.* 89, *figs.* 11, 12); the teeth, which are large and of an opaque white, are inclined forward toward each other (*pl.* 89, *figs.* 10, 12). The chin is broad (*pl.* 89, *fig.* 10), but not very long (*pl.* 89, *fig.* 12). The eyes are narrow (*pl.* 91, *fig.* 1), the iris black, the white is yellowish (reddish) and dim; the auricles of the ear stand away from the head and are flat and large; the fleshy nose is broad and flat, with wide nostrils; the mouth is everted, the thick lips project (comp. *pl.* 91, *figs.* 1, 9; *pl.* 93, *fig.* 3) and are of a reddish-brown color.

Interminglings.—This type—which, as Waitz says, would appear to many Negro tribes of finer physique as a caricature of themselves—is, according to the statement of most writers, the true type of the Negroes, on which the better forms have been ingrafted by means of commixtures. But this is certainly an erroneous opinion. We find the type as described in the lowlands along the coasts and in the swampy regions of the interior: on the coast, for instance, among the Papel, the Feloops, the Susus, the Ashantees, the Fantis, the inhabitants of the Niger Delta, and those at the mouth of the Calabar; in the interior among a few Mandingo tribes, the tribes on the lower Niger, and many tribes on the White Nile, among the Dinkas, the Shilluks (*pl.* 96, *fig.* 2), the Nuers (*pl.* 97, *fig.* 5), the Elliabs, the Baris (*pl.* 94, *figs.* 4, 6), etc. Where the Negroes dwell in healthier, drier, and higher regions, where they and their civilization are more developed, their type becomes better; and it must be said that the type is more pronounced among the lower classes than among the higher.

If the cause of all modification lies in intermingling, then not only on the northern boundary-line, but in various places of this region, the influence of foreign blood must have been such that it has entirely changed the character of whole tribes. Such extended intermixtures may have been possible among single princely families, but they were impossible among the whole nation, as is evident from the fact that with some modifications it has retained its language, its customs, and all the important features of its physical constitution.

The Berber tribes were by no means so far superior to the Negroes that one could infer an intellectual subjugation of the Negroes to them. The physical transformations are not great enough to confirm such a supposition. Besides, the tribes in the lowlands of the coast were also exposed to intermixtures, and yet they have preserved their original type.

Consequently, intermingling is not the cause of the modification of type: it rather seems to be a kind of arrest of development caused by unfavorable geographical conditions. Where the surroundings are more favorable it appears in a milder form.

Deviations in Form.—Most of the Mandingoes are of fine stature, large and vigorous, but their features are of the Negro type. The glossy black Yolofs are of fine stature and regularly-shaped face, with but a faintly pronounced Negro type (*pl.* 93, *fig.* 2); and similar statements are made about the Atlantic tribes—about the Ashantees (*pl.* 91, *fig.* 1), the Yorubas, etc. Of the northern and central nations we pass over the Sonrhais, as they have intermingled greatly, but the Hausas and some tribes of the Bornuese are not ugly; still less so are the Tibbus, with the exception of their southern tribes, which are extremely ugly. Great differences are also seen in the east: Plate 91 (*fig.* 9) shows a finely-formed Bagirmi Negro, and in the regions of the Nile the northern tribes are distinguished by elegant slenderness, the Niam-Niam (*pl.* 95, *fig.* 1) and the Monbuttu by a lower-set figure and good faces, the Akka (*pl.* 97, *fig.* 4) by a miserable dwarfishness.

It is worthy of especial note that the Niam-Niam, the Bongos, and perhaps also the Krej, do not show a dolichocephalic, but rather a brachycephalic, shape of the skull; the latter is also found among some Atlantic and Mandingo tribes. Not only do the Sarakules, some Sonrhai tribes, and the Tibbus have long hair falling down to the back of the neck, and much straighter than Negro hair usually is, but also the Wandala and many of the eastern tribes—for instance, some of the Shilluks, the Niam-Niam, and their neighboring tribes, with whom certainly no intermingling can be thought of, the Monbuttus, and others. The eastern nations have a more abundant beard than the western. Among the Akkas (*pl.* 97, *fig.* 4), the western Wandalas, Bagirmis (*pl.* 91, *fig.* 9), and others the eyes are widely opened; aquiline noses occur among the Monbuttus, and are mentioned in connection with the Bambaras, the Sonrhais, the Pantis, and many of the Yorubas in the west. The women are mostly smaller than the men (*pl.* 94, *fig.* 4; *pl.* 96, *fig.* 2); the build of the breast is like that

of the South-African tribes (*pl.* 94, *fig.* 4; *pl.* 96, *fig.* 2; *pl.* 99, *fig.* 2), and in the east of the district not only the large development of the haunch is seen, but also an analogue to the "Hottentot apron." The Negroes generally sit in a crouching position (*pl.* 93, *fig.* 6; *pl.* 94, *fig.* 6; *pl.* 96, *fig.* 2); in order to rest they often stand on one foot, as the youth on Plate 96 (*fig.* 2, to the left).

Variations in the Color of the Skin.—The color of the skin varies. Many of the Mandingoes and many individuals among the Atlantic tribes are dark brown; the Ibos, yellow brown; the northern Tibbu tribes, copper or dark brown; and many tribes in Adamawa, reddish-brown. According to Schweinfurth, all the eastern tribes have a more or less reddish tint, though the skin be dark; thus the Furians are black with a reddish hue, also the Dinkas, but especially the Bongos, Mittus, Niam-Niam, and Krej, who often are light, even to a reddish-brown. Schweinfurth discovers in this reddish tint of the skin a mark distinguishing the Negroes from the North Africans, whose skin often shades from a yellow ground-color, instead of a red one, into darker tints, and even into black. The Akkas and many of the Monbuttus are of a faint coffee-brown; even the hair, although short and woolly among the Akkas, is frequently of a brownish or grayish-blond color.

We may class the Fulah among the Negroes, as in physical peculiarities they are not strikingly different, especially from the eastern Negroes, and from the east the Fulah came to the country of the Yolofs, which is their chief habitat in the west. The color of their skin, mostly of a reddish-brown, becomes light, sometimes even a leather-yellow, but not unfrequently darkens through a coffee-brown to an ebony-black.

The hair of their head, although not rarely woolly, is generally less frizzled and also longer than the Negro hair, and they wear it in curls or artistically arrange and braid it about the head (*pl.* 91, *figs.* 6, 7, 10, 11). Aquiline noses frequently occur, also large, widely-opened eyes, as a consequence of which their features often do not seem Negro-like, although the mouth remains large. But all these traits we found among the Negroes. Though other ethnologists pronounce the Fulah to be "an intermediate form between Negroes and Arabians and Berbers," it is more correct to assume them to be a Negro people without pronounced Negro peculiarities. Their voice is praised, while among the Negroes, in both the east and west, the voice is weak, indistinct, and shrill.

Disfigurement of the Body.—The hair of the body is generally removed by the Negroes; the incisor teeth are extracted among some tribes at the time of manhood (*pl.* 89, *fig.* 10), among others only filed to a point; the ear-lobes (sometimes also the interior of the auricle, as among the Monbuttus) are mostly pierced (*pl.* 97, *fig.* 5)—among the women of the Bambarra and some tribes of the interior (Marghi, Musgu) the lips also—in order to place a plug of wood, a stone, or a piece of metal in them (*pl.* 92, *fig.* 14; *pl.* 99, *fig.* 2); both lips, or the upper lip in the manner of the Manganyas (*pl.* 89, *fig.* 2), are disfigured by the women of the Mittu and

other tribes of the Nile, while others again bore rows of holes in the upper lip, the edge of the auricle, and even the outside of the nose, in order to put short straws into the openings. Circumcision is practised frequently in the west, but not by all nations; in the east it is not at all found among the tribes of the Nile, but the Monbuttus and some smaller tribes related to them practise it; almost all make scars or certain tattoo-marks (the latter never very extensive) on their heads or bodies, which serve as tribal marks. According to Schweinfurth, the Bongos pierce the skin of the belly at the navel and place in it a small piece of wood or a plug.

Hair-Dressing.—The hair is frequently cut short or shaved, often only a crown of hair remaining (*pl.* 88, *fig.* 19; *pl.* 94, *fig.* 4), and sometimes it is entirely removed (*pl.* 93, *fig.* 3); or it is worn in the oddest manner—sometimes in long thin curls, sometimes like a helmet-crest on the top of the head (*pl.* 93, *fig.* 6, the sitting figure to the right) or standing out like a broad halo all around the head (*pl.* 96, *fig.* 2), or, as among the Niam-Niam, braided up over large wheel-like wooden frames, and among the Monbuttus drawn up over a cylindrical wooden frame and braided in fine strings, often mixed with false hair about the forehead, etc. It is also decorated with feathers (*pl.* 93, *fig.* 6), bushes of plumes of various kinds, with ribbons, beads, with caps laced with beads (*pl.* 94, *figs.* 4, 6; *pl.* 97, *fig.* 5, to the right), and in the east it is not unfrequently dyed red by means of cow's urine.

Costume.—In those regions where the Negroes live without contact with European or Semitic civilization they wear but little clothing, the men often only a small loin-cloth, or, as among many tribes of the east (Nuer, Djur, Shilluk, Dinka, and others, *pl.* 94, *fig.* 1), they are entirely naked. But also among them the nobles and the rich sometimes wear a loin-scarf as a decoration. The unmarried women of these tribes are also frequently nude (Marnos, *pl.* 99, *fig.* 2), but the married women wear almost everywhere either a wrap of skins about the hips or a bunch of leaves both in front and back; among the Monbuttus the aprons of the women are very scant, but they always carry a strip of bast with them which they throw over their laps in sitting down. The Monbuttu men cover themselves with bark substances, those of the Niam-Niam with hides. Some of the eastern nations—as the Niam-Niam, for instance—paint their entire bodies red or white (*pl.* 94, *fig.* 4, middle), or in stripes or designs. In Central Africa, Mohammedan attire made of cotton materials is worn; in the west, either this or a more or less European dress, or the primitive scarf, forms the attire (*pl.* 91, *figs.* 3-7, 10, 11; *pl.* 92, *figs.* 1-3, 20; *pl.* 93, *figs.* 1, 2, 4, 5; *pl.* 99, *fig.* 2, the women to the left).

Ornaments.—The dress is decorated with various kinds of ornaments, which are worn principally by the men—hides thrown about the shoulders, long hanging tails of animals (*pl.* 94, *fig.* 1, middle figure), strings of beads around the neck and breast, necklaces of teeth or of buffalo leather, and bracelets and anklets of metal (*pl.* 88, *fig.* 19; *pl.* 94, *figs.* 4, 6) or of ivory (*pl.* 96, *fig.* 2; *pl.* 97, *fig.* 5). Often they wear a row of

such things around the arm or leg (*pl.* 94, *fig.* 6); these are not rarely welded on, and are sometimes of a great weight. The Monbuttus wear similar heavy rings about the neck. Their ornaments are a source of great pleasure to the Negroes, and in some places there are rules in this line as to what appertains to each rank. The Negroes are not more vain than any other people in a state of nature, only they give a more lively utterance to their pleasure.

Building.—The housebuilding of the Negroes is very uniform: on a cylindrical foundation of clay or plaited work, the latter being generally cemented with clay on the inside, rests a pointed or conical roof which is braided of straw or palm-leaves, generally overlapping. The shape of the roof, which is often decorated, as among the Niam-Niam, varies: sometimes it is rather flat (*pl.* 99, *fig.* 2), then again pointed (*pl.* 93, *fig.* 6, background) or round (*pl.* 94, *fig.* 6). The houses have but one door and no windows: the door is often so low that the inhabitants must crawl through it; consequently, the interior is full of smoke and bad air, but it is generally clean. The fuel in many places consists of dried cow-dung.

The Monbuttus arrange a seat on the central pillar of the house where it projects above the roof. Among the Monbuttus, Schweinfurth saw artistically-built halls one hundred feet in length, forty feet high, and fifty feet broad. In the west, among the Ashantees, artistic buildings are found. It is well known that cities of from ten to eighty thousand inhabitants exist in the northern Negro countries. They are built in the Mohammedan style of architecture, and are fortified with walls, gates, and strong castles. The dwelling-houses are constructed of air-dried bricks. Some nations—for instance, the Krus—build their houses on piles; by others only the granaries or the smaller huts in which they sleep are constructed in that manner (*pl.* 90, *figs.* 10, 11).

The huts are frequently collected into villages (*pl.* 92, *fig.* 20; *pl.* 93, *fig.* 6, a Fulah village); in the less civilized regions they are located together on farms or in small hamlets. The farm premises generally contain several huts—one for the master of the house, others for the women, others for the animals; among the Niam-Niam and other tribes one for the immature boys, who sleep together, and smaller ones for the storage of grain, etc. The smaller towns and villages are often fortified with walls or palisades (*pl.* 92, *fig.* 20); often the villages have a separate fort, such as we met with in South Africa, which serves as a residence of the chief (*pl.* 90, *fig.* 9). In many Negro villages in the east and west there are secluded privies or ditch-like sewers. The household goods are simple. The family sleep on the floor, blocks of wood serving as pillows; the nobles both in the east and west have chairs or stools (*pl.* 89, *fig.* 7); the weapons, pots (*pl.* 92, *fig.* 18), or whatever else they may possess are kept either in or in front of the house.

Farm Buildings.—Plate 99 (*fig.* 2) shows the farm of a chief of the Musgus in Central Africa: the bell-shaped buildings to the right and in

the background, constructed, as well as the enclosing wall, of clay, are granaries, which are built in a great variety of shapes (*pl.* 90, *fig.* 10). On all the farms we also find open sheds, under which the inhabitants cook, tie their cattle, sit and talk, etc. (comp. *pl.* 92, *fig.* 20; *pl.* 99, *fig.* 2); and the village of Fernando Po (*pl.* 90, *fig.* 7) is composed entirely of such protecting roofs. The semi-globular huts so frequently met with in South Africa are rarely found here, but we see them in Soudan (*pl.* 92, *fig.* 20), and also on the upper Nile.

Agriculture and Implements.—Immediately about the villages are the fields and plantations. All Negro peoples are agriculturists, some to a greater extent than others. Farming is rarely conducted by the men, generally by the women and children or the slaves. The implement most frequently used is a hoe (*pl.* 88, *fig.* 19, background). This hoe is a very useful tool and fully suffices for the tropic soil of Africa (Waitz). In the west, where the art of transplanting is known and the fields are drained, ploughed regularly, and weeded, the Sarrars, Kru, many of the Mandingoes and Fulah, are the best agriculturists; in the east the Bongos, Shilluks, and Mittus.

Plant-Products.—The chief nutritive plant from Cape Verde to the White Nile is the doura (*Sorghum*); other grains are rice on the western coast (Sarrar, Kru), and maize almost everywhere. Other plants are beans, groundnuts (*Arachis*), the manioc, batatas, yams, a species of *Arum* the root-bulbs of which are edible, bananas, sugar-cane, various members of the gourd family, and two kinds of tobacco—*Nicotiana rustica* and *N. tabacum*. In the west they successfully grow cotton as a fibre-plant, and on the upper Nile a species of fig the bark of which is used for dress materials. Flowers are also cultivated here and there in the vicinity of the houses. It is strange that of all the most important nutritive plants scarcely any originated in Africa: sorghum, millet, rice, batatas, and arum originated in Asia; arachis, manioc, and tobacco in America (Decandolle).

Stock-Raising.—Stock-breeding is not so actively pushed by the Negroes as by the nations of South Africa, but the Nuers and Dinkas carry it on as zealously as the Hottentots. Cattle belonging to the Zebu race in the east, goats and sheep among the Niam-Niam and in the west, are the domestic animals, besides dogs and chickens. The fact that the latter are not found among the Nuers and Dinkas is based on such regulations of food as we have hitherto frequently found. The flesh of these animals is not so palatable as it is with us—a peculiarity met with in the east as well as in the west of this vast district. Swine are also raised.

The Dinkas do not kill any of their cattle, but they eat those that die; they have great affection for their flocks, which constitute their pride, their pleasure, and their greatest wealth. The cattle are well tended by slaves, and when sick are kept in special houses. During the night they are tied either in close proximity to the dwelling or in particular pens, and are guarded by fires from being stolen, etc. Such care is rarely taken in the west, where, however, the Kru and Mandingoes are quite able stock-

raisers. The fact that the Fulah often lead a pastoral life and possess great herds does not distinguish them from the Negroes, for we find the same among the eastern tribes. Horses are plentiful only in Central Africa (*pl.* 91, *fig.* 8; *pl.* 92, *fig.* 2; *pl.* 99, *fig.* 2), but everywhere they are considered of great value. Bees are kept in the west (Mandingoes) and in the interior of Soudan (Musgus).

Food.—Thus the Negroes derive their food-supply principally from agriculture and stock-raising. But they are fond of fish, which they catch with spears (*pl.* 93, *fig.* 6, the figures in the skiffs), with nets, or with fish-baskets (*pl.* 99, *fig.* 2), and which are often eaten in a half-decayed condition. Dog-flesh is everywhere an article of food. The products of the chase are of importance, especially to such nations as have no herds, and many wild plants and fruits are used. Prohibitions of certain articles, such as we have seen among the eastern peoples in regard to chickens (p. 335), are also numerous in the west, for entire tribes as well as for individuals.

Grain and dried fruits are ground between two stones in the manner of the Bantu (comp. *pl.* 86, *fig.* 3), or are pounded in wooden mortars, which either are portable (*pl.* 99, *fig.* 2) or are constructed on the ground in front of the houses, where the grain is also threshed on level floors. The Negroes generally cook their food in earthen pots of various shapes and sizes, in the manufacture of which they are skilful (*pl.* 92, *fig.* 18; *pl.* 97, *fig.* 5, by the side of the sitting women); they generally eat from wooden dishes which are sometimes flat, sometimes very deep: the girl on Plate 99 (*fig.* 2), standing by the side of the sitting woman, holds one in her hand (comp. also *pl.* 96, *fig.* 2; *pl.* 97, *fig.* 5). Meals are taken at regular hours, the principal one being that of the evening; cleanliness, and even some grace, prevail at eating. The Negroes in general eat plentifully, but they are not voracious, and know how to content themselves with little.

Stimulants.—In many places (for example, in the east) they have hardly any salt, but they are not without stimulants. Aside from half-decayed, piquant fish and the fruits like the kola-nut, which they chew, they have palm wine, and they brew a kind of beer from grain. The Negroes are fond of these beverages, and their festivities often become wild orgies, but in general they are not addicted to drunkenness. The most important stimulant is tobacco, which, mixed with ashes or soda, they snuff or chew, but most frequently smoke from long pipes made of clay, of the stems of banana-leaves, or of iron. The size of the bowl varies (*pl.* 93, *fig.* 6; *pl.* 96, *fig.* 2).

The Bari Negroes, the Nuers, Dinkas, and Shilluks, smoke from enormous bowls, on the long stems of which a gourd filled with bast figures as a mouth-piece (*pl.* 93, *fig.* 6, somewhat indistinct): the bast, which absorbs the nicotine, is afterwards chewed. They generally smoke in company, passing the pipe after a few draughts, and even the chewed bast. In the east the women also smoke passionately (*pl.* 96,

fig. 2); in the west the Mandingoes do not smoke, as it is prohibited to them and other nations (Waitz).

Industrial Arts.—The Negroes have considerable industrial ability. We have already referred to their manufactures of dress and pottery (p. 312). They obtain salt, to them a valuable article, by evaporating sea-water or by burning certain plants and lixiviating the ashes. Some of the western tribes make their own gunpowder. Their housebuilding is important; they also build bridges and dig wells; and the art of procuring iron is known throughout the entire south. In the east and west they erect small furnaces of clay, and use the style of bellows which we have already seen (p. 313) in South Africa (*pl. 88, fig. 19*). They employ heavy stones in the place of hammers (*pl. 88, fig. 19*). They manufacture artistic articles—for instance, rings worn as ornaments.

A number of illustrations, further displaying their technical skill in the various arts, will be observed on Plates 93, 94, 95, 96, and 97. Thus on Plate 93 we see carpenters' tools (*figs. 7, 8*), an oil-jar (*fig. 9*), a stool and bench (*figs. 10, 11*), a basket (*fig. 12*), and a large hut (*fig. 13*), all from the Monbuttus. On Plate 94 (*fig. 2*) is a similar dwelling of the Dinkas, and Figures 5 and 7 are respectively a drum and a water-pitcher of the same tribe; Figure 3 is a clay pipe-head of Golo manufacture. Plate 95 shows a variety of articles made by the Niam-Niam; Figure 2, a dagger and sheath; Figure 3, a wooden vase; Figure 4, a stringed musical instrument; Figure 5, a pitcher; Figure 6, a box; Figure 7, an earthen flask; Figure 9, a shield; Figure 10, a dagger; Figures 11, 12, swords. On the same plate (*fig. 13*) are a basket from the Basuro country and (*figs. 14, 15*) a pipe and a musical instrument from the Mittus. On Plate 96 (*fig. 3*) are shown lance-heads from the Bongos, and Figures 4, 5, and 6 illustrate the construction of a furnace or smelting-oven among the Djurs. A shovel and bracelet of native Djur manufacture are represented on Plate 97 (*figs. 6, 7*), and on the same plate (*fig. 1*) is a granary of the Bongos; Figure 2, one of their furnace-bellows, and Figure 3, a carved figure, such as they erect on graves. The almost nude man (*fig. 4*) is an Akka warrior with bow, arrows, and lance.

Money.—Iron as well as copper bars frequently form a sort of money, the iron (according to Schweinfurth) assuming in the east the shape either of spear-points or of round disks with a handle. Silver money, and even paper money, have been introduced. The cowries (small shells) have now lost their significance, and are worn only as ornaments, but their serving for so long a time and in so important a measure as coin (see p. 116) proves the mercantile spirit of the Negroes. All Negroes carry on trade with great passion and still greater skill. Many tribes are not only adepts in swimming and diving, but carry on active communication by water; and perhaps the Krus (*cræa*) derive their name from their skill in navigation. Plate 93 (*fig. 6*) shows some fishing-skiffs of an eastern tribe. In all these things the Fulah are closely related to the Negroes.

Arts and Music.—Their artistic accomplishments are quite limited.

Although some taste may at times be observed in their carvings and in their buildings, it would be saying too much to assert that they have accomplished anything in the plastic arts. Their dances, generally nocturnal and originally of a religious character, are mostly dissolute (*pl.* 94, *figs.* 1, 6). The dancers are fantastically attired, especially when they are solo dancers, as is frequently the case: Plate 91 (*fig.* 5) shows one in half mask. There are also jugglers and clowns. Their musical attainments are of a higher order. They sing and play much, often for the sake of the music alone, without any words. The musicians frequently dance while playing (*pl.* 93, *fig.* 4). Their music is mostly rude, especially at their public festivities, which are described by witnesses as being conducted with disorderly noise and wild screaming. But they have melodies for songs and fixed rhythms, and exhibit great ability in learning music.

Musical Instruments.—They have various harp- and lute-like instruments (*pl.* 92, *figs.* 16, 17), besides the monochords (*pl.* 92, *fig.* 12), which remind one of the monochords of South Africa, and are, like them, vibrated by blowing; they have also large wooden drums, kettledrums (*pl.* 94, *fig.* 1), flutes of various forms (*pl.* 92, *figs.* 13, 15; *pl.* 93, *fig.* 4), trumpet-like instruments (*pl.* 94, *fig.* 1), Pan's flutes, etc. Instruments similar to those represented on Plate 83 (*fig.* 1) are found in the west.

Literature.—Their poetry is not insignificant. Their epi-lyric effusions are mostly extemporaneous—among some tribes of the west there are professional improvisators—and consequently are of no high order; but they show the ability of the Negroes to conceive facts and subjective experiences with a certain depth of feeling and to express them poetically. Their lyrical stanzas, and above all their numerous and apposite proverbs, are an evidence of this ability. The Negroes are fond of stories, and especially fable-like narratives, which are far-spread and have a practical, instructive conclusion. They also have fairy-tales, some of which Schön relates; but a powerful and unchecked imagination inclines them to the monstrous.

Family Life.—Passing to the family life of the Negro, we find the same mixture of good-nature associated with vulgar selfishness which we have so frequently noticed. Everywhere the wife is bought, everywhere polygamy prevails, and only the very poorest are satisfied with one wife. The women generally have separate houses, and one of them, either she who was first married, or the one of highest rank, or the mother of the principal heir, is considered the chief wife in the west as well as in Central Africa. It is different in the east, where the women when old and ugly are treated by the men as slaves, or at least are no longer visited, and are replaced by younger wives; but they still belong to the family of the man who has purchased them. Sovereigns are obliged to take the wives of their fathers, and often have a great number.

Sexual Relations.—Before marriage the sexes are permitted to have free intercourse with each other, but there are tribes which are more strict in this regard. In the east the women, with the exception of the impor-

fortunate Monbuttu women, are well behaved, and even exhibit great reserve (Schweinfurth). Adultery is criminal everywhere, and is either punished by money-fines or by death. But of course the wife cannot call her husband to account in like manner. Among some degenerated tribes prostitution of the wife by her husband is frequent, and among the western (coast) nations there are everywhere public women who give the money they earn to their masters, and in Dahomey to the king. The Negroes are a very sensual race.

Forms of Marriage.—Engagements of marriage are made very simply, and declarations on the part of the man rarely meet with opposition. Oftentimes children are engaged. Marriage is contracted without ceremony among some tribes (Gold Coast); among others (Mandingoes) the groom arranges a festivity, the bride is wrapped over and over in the festive dress of white cotton, and she is conducted by the women with songs and dances to her new hut. The purchase-money is delivered and the bride handed over. Husband and wife have no property in common, which is very significant in regard to inheritance.

Divorce.—Divorce is not much practised, from the fact that if the wife leaves her husband she must return all the presents he gave for her, and she must even pay for the children she takes with her! On the other hand, the husband on renouncing his wife loses all he paid for her. In spite of the despicable degradation to which the Negro women are condemned, individually they are not badly treated: they share in pleasures and festivities, often also in state affairs—for instance, among the Mandingoes—and a Monbuttu princess in male attire marched at the head of her army to many a victory (Schweinfurth). Many of the Negroes love their wives, as Schweinfurth relates about the Niam-Niam and others, and Bosmann about the Atlantic tribes. They are seldom treated with actual cruelty.

Births and Attending Ceremonies.—To be blessed with children constitutes the greatest felicity of all Negroes. A woman who is for the first time with child has to undergo peculiar ceremonies among the tribes of the Gold Coast. She is conducted to the sea, while boys and girls throw earth at her; there she bathes, and is consecrated by the priest. The Negroes believe that the neglect of this ceremony would be punished by the death of one of her relatives or of her child. Some tribes kill deformed children and one of twins, or even both. On the other hand, children generated in adultery or prostitution are received into the family without any ado. After giving birth, while nursing, and during their periods the women are considered unclean. The child is named immediately after its birth, and often the name of the mother (Hausa, Sierra Leone) or of different relatives, or the name of the day when it was born (Gold Coast) or a reference to some important occurrence, is added. Additional names are earned by brave deeds in war or in hunting. Subsequent children are named by number, like the Roman Quartus, Quintus, Sextus.

Religious rites and festivities are connected with the giving of the name: others take place at the time of puberty, when the boys are circum-

cised, and they as well as the girls must participate, among some tribes, in ceremonies which are kept secret. Circumcision is practised at the same time on several youths, who then form a certain community: they have an established costume (*pl.* 83, *fig.* 7), go about from place to place singing and dancing, and are everywhere received and entertained with honor.

The children are instructed in the arts of their parents in a perfunctory manner, but among the Mandingoes and some of the Atlantic tribes, according to Mungo Park's account, they receive regular lessons and are taught to speak the truth. The Negroes have a passionate love for their children, who are much attached to their parents, especially to the mother. Chiding words addressed to the mother is the greatest insult that can be offered a Negro. "Beat me, but do not rebuke my mother," said one of Park's Negro servants (*comp.* p. 79). Inheritance is through the *female* line.

Children obey their father, but do not love him as much as they do their mother—a natural result of polygamy. The father has unlimited power over wife and child, so that he may even sell them into slavery. This is sometimes done, but only in case of extreme necessity or where all social relations have become completely demoralized by the slave-trade. It should be borne in mind that in Africa slaves (at least when kept by the Negroes) are not badly treated, and that consequently slavery does not appear the greatest of all evils. It is an important distinction between the Bantu and the Negroes that it is easy to speak of the former as a class, but very difficult to do so of the latter. Almost every tribe shows marked dissimilarity both in custom and language to the neighboring tribes; and as this holds good for the manner of contracting marriage, so it also holds in political institutions.

Government.—We saw the father as the absolute master of the family, and we see the king an absolute ruler over the state, which is entirely constructed on a family foundation. To him everything belongs; all subjects are his slaves; he takes to wife whom he pleases; and his consent is required for the marriage of his subjects. The greatest honors therefore are paid to him; in fact, he is deemed a god. In the Niger Delta the king's sleeping-place was kept secret, and on the inquiry of Bosmann (1700) as to its whereabouts, a Negro answered, "Do you know where God sleeps? How then are we to know where the king sleeps?" He always eats alone, and it is scarcely allowable to see him eat. The subject crawls up to him and kisses the dust, and to stand before him would be a crime. In Waday the upper part of the body must be uncovered in his presence, and the subjects must change their names if they resemble his. His exterior is distinguished by great pomp: we see the sheik or sultan of Bornu in complete Arabian attire on Plate 92 (*fig.* 1), his body-guard in their strange garbs on Plate 91 (*fig.* 8) and Plate 92 (*fig.* 2). The rider and horse (*pl.* 91, *fig.* 8) are armed with a thickly-plaited coat of mail.

Each sovereign of any importance is supplied with similar guards, and the monarch of the Gold Coast, although not very powerful, was always accompanied by a bodyguard, weapon-bearers, overseers of his wives, and heralds: the latter, it seems, were individuals who, besides announcing his arrival, also served as his interpreters, for the king speaks to others, even to his subjects, only through interpreters. Whole hosts of musicians, and sometimes the entire train of his wives, accompanied him. The statements of Schweinfurth about the pomp and splendor of Munsu, sovereign of the Monbuttu, are similar: in Benin the wives of the monarch constituted his armed bodyguard and executed his penal judgments. The same is the case in Dahomey. The palace, as in Dahomey and among the Monbuttu, is frequently of great splendor. Some of these sovereigns are distinguished by ceremonies only at festivities, while in every-day life they associate with their subjects almost as though they were equals. Their incomes consist of fixed duties or of taxes and presents, the last not always voluntary. **A sovereign without money has no power.** Among many of the Atlantic nations at the death of the king perfect anarchy prevails until the new king—generally the son of the late king's sister, for royalty is also almost universally inherited by female lineage—has ascended the throne. We saw a similar usage in Polynesia (p. 201). Human sacrifices are often offered at the king's grave. The Mexicans and the Peruvians (pp. 228, 230) sacrificed human beings on all important occasions.

The king is supreme judge, commander-in-chief, in some places—for instance, among the Fulah—and also the highest priest. In several states his power is somewhat limited by the subordinate chiefs, who constitute the second rank in the state, and who are selected from the near relatives of the king. The third rank is composed of the wealthy merchants and mechanics; the fourth of the people; and the fifth of the slaves. A similar gradation of society is found among the western Fulah, but each grade has its own villages. The smiths are a caste set apart, and among the Bantu tribes and also among the Bambarras they elect the king; but in some tribes they are held in dishonor.

These classes have developed differently in different states: in some the power of the king has been weakened by them (Mandingoes, Sarraus, some of the Feloops, the tribes of the Gold Coast, etc.); in others he is absolutely supreme, as in Dahomey and among the Monbuttu; and in still others, though he possesses supreme power, he is guided by the nobility and the elders, who constitute his council, as in Hausa and in Bornu. Among the Yolofs an annual court of censure, such as we have seen among the Caffirs (p. 318), sits in judgment over him. The Krus are governed by a council composed of the eldest member of each family—the family is here the unit of society—and by a second council formed of men from the people, besides which there are four chief officials.

Laws and Punishments.—The Negroes are eloquent and skilful in the management of their lawsuits, the decision of which generally rests with

the king. Everything is vouched by witnesses, and there are established penalties for almost every offence; even murder can be atoned by money, and thus blood-revenge may be escaped. Failure or inability to pay the fines is punished by slavery. Slavery is the usual mode of punishment, though mutilation, and sometimes death (often in very cruel forms), are inflicted. The punishment follows close upon the judgment. Avarice, which is a prevalent vice of the Negroes, has dictated many customs and laws; it also renders the judges open to bribes. On the Gold Coast a creditor unable to collect from his debtor may take by force the equivalent of the debt from a third person, and leave the latter to recoup his loss from the delinquent debtor. In some Negro states there is a capable police force, but usage, everywhere so powerful, is the best police.

Oaths and Ordeals.—The Negroes see in every misfortune only the consequences of witchcraft, and therefore oaths, especially oaths of purification, are frequent. They adjure a god or a magician to punish them if they lie (see p. 166). Ordeals are numerous, and consist in drinking poison, touching some red-hot substance, swimming across rivers full of crocodiles, etc. Of the secret societies, which act as executioners of justice, we will treat on page 348, and merely remark here that the bodyguard of the king of the Ashantees forms a league of the faithful who would sooner die than leave their master.

Weapons and Wars.—Wars are frequent and fierce. Let us first consider the weapons—bows and arrows, spears, and a peculiar missile, the trumbash—a name originating in Sennaar, but used in Soudan (Schweinfurth).

Bows and arrows, although not found among the Niam-Niam, the Dinkas, and the Nuers, were, together with the spear, the most important arms of the Negroes in ancient times. We find them among the Atlantic peoples, the Fulah, the Mandingoes (*pl.* 91, *fig.* 4), in Central Africa among the Bornuese (*pl.* 92, *fig.* 6; *pl.* 93, *fig.* 5), in Eastern Africa among the Bari Negroes (*pl.* 88, *fig.* 19; *pl.* 94, *fig.* 4) and the Akkas (*pl.* 97, *fig.* 4). Generally both bows and arrows are very large, and the points of the arrows, which differ in the different nations, are frequently poisoned. The quivers are variously decorated (*pl.* 93, *fig.* 5, to the right; *pl.* 94, *fig.* 4, to the left).

Spears.—In Kordofan the spears are poisoned. The points, fastened to very long handles, also show a great variety of form, sometimes long (*pl.* 92, *fig.* 2), sometimes shorter, spatula- or arrow-shaped, barbed (*pl.* 93, *fig.* 5), or straight (*pl.* 91, *figs.* 7, 8; *pl.* 93, *fig.* 6; *pl.* 94, *fig.* 4; *pl.* 96, *fig.* 2; *pl.* 97, *fig.* 4, 5; *pl.* 99, *fig.* 2).

Clubs of various kinds are the favorite arm of the Nuers, Dinkas, and Shilluks (*pl.* 96, *fig.* 2; *pl.* 97, *fig.* 5; comp. *pl.* 94, *fig.* 4, to the left), and also pointed sticks of hard wood (*pl.* 93, *fig.* 6, with standing figure), such as we found among the Caffirs and Hottentots (p. 313). Besides, they have a peculiar bow-like weapon with which they protect themselves from the blows of the clubs.

The *shields*, mostly with rich decorations and of different forms (for instance, *pl.* 93, *fig.* 5), constitute another weapon of defence. Cuirasses, jackets of buffalo-skin, or long war-coats of matting are used in Central Africa (*pl.* 91, *fig.* 8; *pl.* 92, *figs.* 2, 5; *pl.* 99, *fig.* 2). The horses are also protected with armor. The cavalry of the Fulah is equipped in this manner.

Other weapons are the *battle-axe*, which is in use in the west (*pl.* 91, *fig.* 5, on the ground), in the centre (*pl.* 92, *fig.* 7), and in the east of the region; the *sword* (*pl.* 91, *fig.* 4; Darfur, *pl.* 99, *fig.* 7, and in the east among the Niam-Niam, *pl.* 95, *figs.* 11, 12); different kinds of *daggers*; and the Bornuese *battle-scythe* (*pl.* 92, *fig.* 4), which is fastened to a stick by means of two eyes.

The *trumbash* (*pl.* 99, *fig.* 9) originated from a flat wooden sling, such as is found in various places in Soudan; it is generally used in hunting, and is much like the famous Australian boomerang (see p. 61; *pl.* 5, *fig.* 8^b); it is made of iron and supplied with points and teeth, and is a dangerous weapon. It is mostly in use in the east, but is also found in Central Africa. It is carried in the hand, as by the Musgu chief on Plate 105 (*fig.* 6), while Plate 99 (*fig.* 9) shows the East-African form in use among the Niam-Niam.

Firearms are now in use in the west and in the interior (*pl.* 91, *figs.* 3, 7; *pl.* 93, *fig.* 2; *pl.* 105, *fig.* 6), and are also being introduced in the east: awkward as the Negroes were in the use of them in the beginning, they now know very well how to handle them.

Before a war, which is always preceded by magic rites, they paint and adorn themselves in a striking manner (*pl.* 91, *fig.* 3; *pl.* 93, *fig.* 2), question the gods, perform solemn and wild dances, often at night (*pl.* 94, *fig.* 1), and utter awful threats and challenges. War is formally declared, and fought out in pitched battles, which are generally not very sanguinary, as the combatants cover themselves so that most of the shots have no effect; they also pause during the fight, and these pauses are employed in villifying the enemy. They have no fixed battle-array. For the most part, that side flees whose men fall first, and the main thing is to follow the fugitives. The cities and landed property of the conquered are laid waste in order to gain booty. The wars are injurious on account of the plunderings and destructions connected with them. There are also wars of incursion and pillage, which are not announced and which are generally the continuance of old quarrels between tribes. War in general is conducted by the Fulah exactly as by the other Negroes.

Captives.—Captives are seldom tortured or killed, being generally enslaved. Only when the passions are particularly aroused do the Negroes strive to capture the heads of the enemy as trophies. But among some tribes it is the usual practice; in Dahomey, for instance, heads are collected, and among the Niam-Niam they are hung up in public places.

Military Spirit.—The Negroes have a warlike spirit whose expression must be judged according to the customs of the country. Where they

have been led by Europeans or other trained leaders they have proved valiant and persevering, and they readily learn to withstand the arts of their enemies. In their own wars there is no lack of examples of fool-hardy daring, although this is more the result of carelessness or unchecked passion than of valor. A cause for war is often found in trivial things, some individual robbery or private quarrel; also in covetousness, a love of booty, or a national pleasure in combat. Peace is negotiated without much ceremony.

Armies.—The armies of the different states are not important. The Dahomans are said to be able to send twelve thousand men to war, and Schweinfurth saw an equally large army on the White Nile. The strength of the states of Central Africa, whose main force consists of their cavalry, is much greater, but the power of each state changes rapidly on account of ever-continuing wars.

Cannibalism prevails in but few countries of the west; for instance, it is practised in Dahomey, and the Ashantees eat the hearts of the slain enemy; but formerly it must have been more common. Schweinfurth found it extensively among the Niam-Niam and the Monbutus. The name Niam-Niam is an appellative derived from the root *nya*, "eat," and means devourer or man-eater among the Dinkas as well as among the nations of Central Africa, who assert that at different places in their vicinity there are such Niam-Niam; from which it may be concluded that cannibalism is more practised in that tribe. The decrepit old people are killed by some tribes (Kordofan), and others (Gold Coast) are said even to devour the corpses. There is no doubt that these customs, here as well as elsewhere, originated in a belief in animism. The enemy can be harmed even after his death; his soul can be forced into servitude; and magical powers are attributed to the consumption of human flesh, and especially to the use of human fat. This leads us to the religious belief of the Negroes, which must be treated with great care, as erroneous ideas generally prevail about it.

Religion.—Throughout the entire Negro territory, wherever Islamism has not been introduced, the religions are strikingly similar. There is one supreme and beneficent being, who has created all things and sustains them. He bears different names: Mawu among the nations of the Slave Coast, Olorung among the Yorubas, Tshuku among the Ibos, Nyaledit among the Nuers, Loma among the Bongos, Gumba among the Niam-Niam, etc. But he is considered remote. According to Bosmann, the Widas say, "God is too great to concern himself about such insignificant things as the world and mankind, and he has therefore given the government over them into the hands of inferior gods."

Some tribes, however, address their prayers to the supreme being as to a protector in misfortune, the giver of all good, the omnipresent, all-seeing, and all-hearing one, who embodies himself in lightning and thunder, as the Niam-Niam, the inhabitants of the Gold Coast, and other nations believe. The seat of this deity is in heaven; formerly he was

nearer to earth, but mankind have driven him to remoter heights (legend of the Ashantees).

The Negroes avoid speaking about him, as he is believed to be too august for the knowledge of men. But he has sent his messengers, inferior gods, who are mediators between him and man, and who are frequently (for instance, among the Niam-Niam and on the Slave Coast) called simply messengers, ambassadors. These are countless, according to the belief of the western Negroes, the inhabitants of the Slave and Gold Coasts, the Mandingoes, and the Volofs. These spirits constitute the fetiches. They are not all alike: some are more, some less powerful, and all are united under one superior.

A large portion of the Mandingoes, all the Fulah, and most of the tribes of the interior have been converted to Mohammedanism, but much paganism has been retained, and the Mohammedans are scarcely less superstitious than the Negroes. Christianity has advanced with good results.

Elementary Deities.—The elementary deities, the gods of the ocean, the rivers, and the lakes, are powerful; also those of the woods, of sacred groves, and of certain trees. In Dahomey the snakes are powerful, having their own cult, temples, and priests, and to them in former times (before 1700) the kings themselves made pilgrimages. Other animals are also incarnations of gods: the hyenas, elephants, lions, crocodiles, the apes—which at some places are believed to be bewitched persons—and, above all, the birds. The Negroes of the Slave and Gold Coasts often imagine the highest god in the guise of a bird.

Fetichism.—The inferior gods are more numerous than all birds, animals, and plants together: whatever happens to the Negro is their doing; whether he succeeds or fails in an enterprise, the cause is some god who may have his seat anywhere, perhaps in a stone against which he struck in going out. Thus, stones, claws of animals, pots, etc. are deemed the domicile of some deity; and this leads to the worship of inanimate objects. Such is the explanation of Negro fetichism.

Other traits besides the belief in fetiches belong to the religion of the Negroes. They venerate the heavenly bodies, especially the moon, and among the Atlantic and central tribes the sun also. Time is calculated according to the moon, the different phases of which are celebrated with prayers, and oftentimes with festivals and festive dances (*pl. 91, fig. 6*). The god of fire is also venerated, and so is the earth (Atlantic tribes). All these must be distinguished from the fetich spirits, from which originally the spirits of the ocean were probably also distinct.

Guardian Spirits.—The frequently-recurring belief in a devil is rather indistinct, and seems to refer to the collective power of the inferior evil spirits. There are guardian spirits, and each person during his entire life has one or even two, which, as he constantly receives good from them, he must continually worship. From this originated the various prohibitions of food which pertain to individuals or even to entire tribes,

which also have each its guardian spirit. He whose guardian spirit has assumed the figure of a chicken must eat no chicken, for in that case he would drive away or offend the spirit. He must also honor him in other respects: one day of each week is sacred to him, and on this day the celebrant adorns himself in festive garments and lives abstemiously. This is the so-called birthday festival of the Atlantic Negroes. Whoever can afford to have several wives chooses one among them to be his guardian spirit: she occupies the next rank after the principal wife, and always receives the conjugal visits of her husband on the day dedicated to his guardian god.

Immortality of the Soul.—The belief in a future life is universal; the souls appear sometimes as animals, at other times as human beings; often beneficent, but generally malicious and hostile, and therefore they are much feared. In the west this has to a great extent become mixed up with fetichism or quite overshadowed by it.

Superstitions.—The belief in amulets and in favorable and unfavorable omens and countless other superstitions prevail. The Negroes fear the evil spirits of the caves and mountains; they also fear the evil spirits of the forest, which frequently appear as animals; they fear magicians and witches; and here as everywhere they believe in persons who during the night go about as vicious animals (in the west this characteristic is chiefly attributed to the caste of the smiths); and they fear the souls of the deceased. This is more distinct in the east than in the west, where these various forms of African pandemonism have been changed into fetichism. The Negroes hold certain days to be lucky and others to be unlucky, and will not undertake anything of importance on the latter; and they have numberless other superstitions which we omit.

One trait is exhibited in the east which is entirely absent in the west, but which we found (p. 321) widely spread in South Africa—the humanizing of former deities. Thus the Shilluks are said to worship the protector of their tribe, who is supposed to have conducted them into their present country (Schweinfurth), and by whom it is certain they originally meant a deity, and not a human being.

Theory of Creation.—In the west the creation of men is attributed to the supreme god. They are said to have proceeded either from caves in the earth or from a rock in the ocean (Akral)—a myth which bears a striking resemblance to other legends about the creation. According to another belief, all beings originated in a separate city of the heavens.

Future State.—The dead are supposed to live either under ground or to go to far-distant regions, across the ocean or a large river, whenever an evil spirit endangers them; many believe that they again return, but as white people; others, that they always remain in the vicinity of the living, but invisible to them. Among the Ashantees the good spirits ascend to heaven on the souls' path, the Milky Way. The belief in a recompense after death is also extensive; and while the slightest trespass against the laws of religious cult is considered punishable in the Hereafter, it is not

so as regards murder or baseness. Other tribes—for instance, the Mandingoes—say that it is not known whence man came or whither he goes.

Punishments for Religious Violations.—The severe punishments inflicted by the gods for violations of religious rites, of food prohibitions, the festival days, the sacred spots, etc., remind us of Polynesia, and the stringent enforcement of the laws in these respects is similar to the Polynesian taboo (p. 200). The strict ceremonial toward the king has a religious basis, as also have many other customs, such as, among the Dahomans and Widas, the practice of women and children approaching the father of the family on their knees, the usage of women eating apart from the men, the secrecy maintained about the food prepared for the king, abstinence from certain articles of food and on certain days, etc.; for some individuals and classes are considered less holy than others. Their oaths and ordeals are mostly invocations to some fetich, who will certainly take revenge if called upon in an unjust cause; or a fetich is laid upon the accused, and if he is guilty he at once confesses. They guard themselves against harm from sacred animals by hanging a fetich on a tree or fence.

Offerings and Sacrifices.—The deity is appeased with offerings of food—chickens, palm wine, fruits—deposited in out-of-the-way places; sometimes he is appeased with dress materials and money. At the erection of buildings, at the time of the new moon, to attain fecundity, etc., the Negroes offer human sacrifices, children or captives taken in war.

Priesthood.—The priests are very powerful; they question the god as to his opinion, speak to him, designate the offerings, manufacture amulets and fetiches, foretell events, speak oracles, and cure diseases by conjuring the ghosts which caused the malady, for all diseases (for which they have some medicaments which are really effective) are the effects of hostile demons; they also make rain and bless the marching of troops, the newborn children, etc. In some of their devotions they become so wrought up that they fall into convulsions. Their office is often hereditary. The priests generally dwell in the temple when there is one. The snakes in Wida have a large house with a numerous priesthood, and such fetich-houses are not rare. In some regions magicians, fortune-tellers, and fetich-men exist in addition to the priests; the latter then occupy a higher rank; they only are known in the east, a real priesthood seeming to be absent. On the Slave Coast there are also priestesses, who enjoy great respect.

Idols.—The Atlantic tribes have idols, generally rudely-carved human figures, which are sometimes erected in huts, sometimes in the open air, or under roofs to protect them against the weather. Smaller idols are kept in the house or worn as amulets about the neck. An idol of the Ibos is shown on Plate 91 (*fig. 2*); it is carved in a bowl in which it receives the offerings of food. In the east, among the Bongos, the image of a dead person is formed of a wooden staff. The husband preserves the image of his deceased wife in his house, where no doubt it takes the place of the guardian spirit.

Secret Societies.—In the east fraternization of individuals by drinking each other's blood is customary; in the west, among the Mandingoes, the Purra League exists, a secret society divided into different classes, having its own tattoo-mark and regarded with sacred awe by the entire people. It exercises a strict moral police: during the night its ambassador, the Mumbo Jumbo, suddenly raises a loud howling in the woods—spirits and gods also howl—whereupon the whole population must assemble in festive attire, and then, with the assistance of the people, each criminal is severely punished by strokes with a rod by the Mumbo Jumbo, who appears masked. Similar leagues exist among the Susus and the Ibos. Women are excluded from the society, but, as Mungo Park says, their crimes are the special object of the Mumbo Jumbo's vengeance.

Funeral Ceremonies.—A few words as to the treatment of the dead. After loud lamentations, noisy funeral festivities, and various marks of mourning (cutting off the hair, fasting, putting a rope around the neck, etc.), they are buried close by the dwelling-house (Mandingoes, Susus, Dinkas) or in burial-places, in some of which each dead person has his separate hut. They are buried either in a sitting (Atlantic tribes, Nuers, Niam-Niam) or a lying posture (frequently in the west, Niam-Niam, Bongos), but the faces of the men are placed in a direction opposite to those of the women.

In the east the dead are interred in a side-niche of the grave proper, in a manner very similar to that of South Africa; and stones are frequently heaped over the grave, either formed into an artistic structure or gradually deposited by passers-by. The Bongos and their neighbors erect over the grave a roughly-carved pole representing the image of the deceased; among the nobles the women and children are portrayed in a similar manner. They also place a jug of water on the grave; other Negro tribes bring offerings of food and put valuables into the grave with the dead; even slaves and women are slaughtered at the graves.

As it is believed that death is generally caused by magic, the nearest relatives, and especially the wives, must free themselves from the suspicion of murder, otherwise they are killed. For this purpose oaths of purification or ordeals are employed.

Character and Condition.—Having now passed through all the phases of Negro life, we may form a not unfavorable judgment relative to the Negroes themselves. We find some able tribes whose language, religion, political life, and mercantile enterprise, as well as agricultural industry, are well developed. Let it be considered with what rapidity useful foreign plants have spread over Africa. In psychical constitution the Negroes are emotional, easily yielding to every impression, with a vivid imagination, often attaining the fantastic, and much addicted to sensual pleasure. On this sensual excitability the credulity of the Negroes is based, which, however, is never extended to practical things. Their laziness is also often mentioned; but they are not really lazy: they work when it is necessary, otherwise they see no reason for exertion. Work,

as a rule, gives them no pleasure, but they do not shun it, as is proved by the frequently flourishing condition of their fields and herds.

Valor and Humanity.—We have spoken (p. 344) of the valor of the Negro, which easily degenerates into frenzy. Though when excited he may shed blood with perfect indifference, and though he may act regardless of the weal or woe of others, he is not really of a cruel disposition. This is seen in his considerate treatment of strangers and captives, in his thoughtfulness and kindness in sending to the sick a portion of the birthday feast (Gold Coast)—though superstitious motives may also act a part here—and among the Yolofs in giving to a poor person the meal prepared for one just deceased, etc.; but, above all, his good-nature is shown in his treatment of relatives and slaves.

Slavery.—The entire polity of the Negroes is in many respects based on slavery, which is indeed widespread among them, but the slaves are generally treated with clemency: they belong to the family and can marry into it (Bosmann), and their children are often liberated. Consequently, the fear of slavery is not very great, which may somewhat excuse a father's selling his family into slavery if forced to do so by debts (p. 340). The Negro is also attached to his native country: homesickness is common, and nothing seems to him more desirable than to be buried in his native place (Bosmann).

Social Manners.—Inclined to pleasure as the Negroes are, they of course have many games and amusements, and especially noteworthy are the formality and politeness which characterize their social life. In greeting, expressing thanks, obliging, etc. they have established and often really fine manners. Some of these customs, now meaningless, must originally have had a good signification. Thus, two Tibbus meeting after a long separation require almost an hour for continually-repeated formalities—a custom reminding one of Australia and Polynesia (p. 205).

Avarice.—The various good traits of the Negroes are, however, often stifled by many vices. The south-eastern tribes are more barbarous and undeveloped than the western, though in the west one trait of the Negro character is more offensive—namely, the unbounded avarice which often nullifies all his better qualities. The Negro is not naturally dishonest, still less is he malicious. In order to become acquainted with his true character we must not study it where he has become demoralized by Arabians or Europeans, and still less among the slaves in America. Negroes are numerous in the latter country: all the heads on Plate 83 (*figs.* 4, 5), Plate 86 (*figs.* 18, 19, 20), Plate 89 (*figs.* 3, 5, 6), and Plate 90 (*figs.* 1-5, 8), are of slaves from Brazil; but it is clear that the treatment of most American slaves in capturing and transporting them, and later in their servitude, developed only the evil sides of their character.

Thus the Negroes are inferior to no other race, either in character or in accomplishments. Indeed, they surpass many, and if they have not attained a higher elevation, we must seek the main cause of this in their geographical and historical conditions.

Influences of Climate, etc.—If we consider their climate, which renders care about clothing and shelter unnecessary; if we consider how easily the African soil almost everywhere in the Negro countries furnishes abundant nourishment, and, furthermore, how the influx of peoples from the east has been more unceasing than elsewhere in the world; and if we also consider what the Negroes have suffered and still suffer from the Arabians, Nubians, Berbers, and Europeans, and that in spite of this they have retained their peculiarities such as we have found them, we shall conclude that the assertion that Negroes are a lower race of little intellectual ability, which “may be trained, but not educated,” is entirely untrue and unscientific.

4. THE SEMITES.

Location.—Under the name of Semites we include all the nations living in Africa north and east of the Negroes—in the Desert, the Atlas Mountains, Libya, Egypt, on the middle course of the Nile, and in the regions north of the Equator and east of the Nile to the Red Sea; also the inhabitants of Arabia, Palestine, and Syria. The division of this last great branch of the Arabic-African Race is easily made: we shall consider first the African Semites, and secondly the Asiatic Semites.

The first may appropriately be called *Hamites*, but such appellations as Ethiopic race, Sub-Semitic peoples, etc. are unsuitable. The unity of this fourth division is apparent from the peculiarities of the languages and physical structure of its members.

A. AFRICAN SEMITES.

General Consideration.—We shall begin their survey in the west and north. The African Semites include—

(1) *The Berbers.*—These are a collection of tribes whose extreme outposts were formerly occupied by the *Guanches*, inhabitants of the Canary Islands, who have been extirpated by the Spaniards. The Guanches were above middle stature, dark brown, with long, straight black hair and developed hair of the body; of peaceful customs, but brave; they lived in houses and carried on agriculture and stock-raising; they had fixed judicial rules, solemn marriage ceremonies, temples, priests, and various gods; they embalmed the bodies of their dead, whose mummies have been preserved (*pl.* 100, *fig.* 3, head of mummy). The vocabulary of their language coincided largely with that of the western nations of the continent.

These are—the *Mazigs* (*Amazigs* or *Amazirgs*), with their most western tribe the *Shuluh* or *Sheluh* (Shellochs); farther to the east the *Filleles*, and in Algeria the *Kabyles*. The Mazigs are widely spread in the west through the Desert as far as the Senegal. Here they are called *Moors*, and the *Trarsas* and *Braknas* belong to them, but they are so mixed with Negroes that they constitute a true mulatto race whose attire and physique are shown on Plate 105 (*fig.* 6). East of the Mazigs of the

Desert live those tribes which are generally called *Tuarick*, or, as they style themselves, *Imoshags* (Imohag). They seem to vary from the western tribes in some respects, but the ethnological conditions demand closer study.

It is not worth while to mention all the larger and smaller tribes belonging here, especially as many of the names are only local, as when the southern Tunisians are called Djebali—that is, inhabitants of the mountains. It is enough to know that closely-related tribes live in Tripoli as far as Fezzan, and farther on in the oases of Awdjila and Siwah, and extend into Egypt and Nubia. In the west they extend farther southward, as these districts are scarcely occupied by Negroes; but numerous wars have been carried on at the boundaries with the Negroes, and Timbuctoo has been a bone of contention for the two parties. Connections of a peaceful kind are also found, but it is erroneous to call the Berbers of the Desert a mixed people. Neither can the Tibbus, who have not been driven away by the Berbers, be called mixed, although in Fezzan the two nations have greatly commingled. We have mentioned (p. 324) that a few Negroes are found dispersed among the Berbers in the north-east of the Desert (Barca).

(2) *The Egyptians*.—The second race of the African Semites are the Egyptians, who are at present found rather pure in the rural population of the *Fellahs* and in the city population of the *Copts* (*pl.* 103, *fig.* 4), (Hartmann).

(3) *The Nubians*.—We enter a difficult territory in approaching the boundaries of Nubia, for it is not easy to untangle the history of Eastern Africa. In attempting to find our way in this labyrinth, omitting the smaller tribes, which are often the most obscure, we must mention the Nubian nation as the third branch of the African Semites. To it belongs the tribe which we call *Nubians* (the Arabians name them Barabra, Berabra, singular Berber). Closely related to the *Dongolazei* are the *Nuba* and other tribes of Darfur. It is undecided where the *Fandshes*, dwelling in Sennaar, belong. They do not seem to be a Negro people, like the Hammeg tribes living to the south of them, from whom they are separated in language.

(4) *The Bisharis*.—The Bedshas or Bisharis, who live between Nubia and the Red Sea, constitute the fourth branch.

(5) *The Ababdes*.—These dwell south of Kosseir. They certainly belong to this division, but it is not known where the *Hababs* and *Hadendas*, east of the river Takazze, and other smaller tribes of that region, belong.

(6) *The Abyssinians*.—We class the peoples of Abyssinia together—the *Ethiopians* or *Abyssinians proper*, the nations using the *Tigré* and *Amharic* languages, the *Agos* and *Begos* (South Abyssinia), the *Falashas* (Lake Tzana), the *Sahos* (north-east of Tigré), and other insignificant and doubtful tribes. *Shoa* and probably the inhabitants of *Kaffa* belong entirely to Abyssinia.

(7) *The Gallas*.—The Galla nations, to which the *Somalis* and the *Danakil* (north-west of Bab-el-Mandeb) are related, constitute the seventh branch. The Somalis are divided into two large classes—the northern *Edur* and the southern *Darrud tribes*, to which latter belong the *Mid-sherthains*, the extreme eastern people, living as far east as Cape Gardafui. The extreme western Gallas are the *Limmous*, dwelling in Kaffa (Jomard). We also include the *Yumales* (more to the north), and in the extreme south, on the second degree of south latitude, the *Eloikobs* (Wakuafi in Suaheli), whose language belongs to the Semitic class, though to its extreme limits.

We have now finished the enumeration, but before proceeding some remarks are necessary. The old and now extinct language of the Ethiopians, the Geez, like the chief living Ethiopian languages, the Tigré and the Amharic, is decidedly a Semitic language closely related to the Himyaritic language of the South Arabians, and its introduction, although not ascertained, must have taken place in an historically calculable time before Christ. However, we must class the Geez people among the African Semites when we take an ethnologic view of them.

The philological difficulty of separating the Geez from the surrounding African tribes becomes an impossibility when their physique, their customs, and their whole manner of living are taken into view; all of which, to use Ritter's words, constitute them a people distinct from the Arabians. Nor do we hesitate to class ethnologically among the African Semites the different Arabian tribes of North Africa, which have been living for centuries in Nubia and south of Nubia, as well as in the Desert as far as the Niger and the Senegal, because their appearance and the entire complexion of their life stamp them as Africans. But it is difficult to draw a clear boundary, for just as the Negroes and Bantu shade into the Semites, so do the African Semites pass into those of Asia.

We also find in Arabia tribes which belong, according to language, to the inferior African Semites. Such are the *Mahra* tribes living in South Arabia, speaking the Ehkili, and in the east the independent dialect of Dhafar, as also many despised castes of the country, such as the *Achdam*, the *Shumurs*, and others, whose language, while not Arabian, shows but little affinity to the Ethiopian (Maltzan). Halévy, a French scientist, has discovered that the Ehkili is very like the Berber and Egyptian idioms. The Mahra and all the tribes mentioned cannot be immigrants; wherefore it follows that the aboriginal inhabitants of Arabia—indeed, probably all the oldest tribes of the Semites, the aboriginal Semites—stood on that linguistic step on which we at present find most of the African Semites.

Physically, the Achdam and Shumurs are more remote from the type of the Arabians, but much like the natives of North Africa, as is clearly seen from Maltzan's description: skin blackish; nose broad, not flat; mouth large, not everted; hair frizzled, long; stature average. Still, we do *not* class them among the African, but rather among the Asiatic

Semites, of whom they constitute the most ancient form. From peoples like them the present Semites, who have developed so high above them, have descended. At present their whole manner of living, as well as their surroundings, is entirely Semitic.

B. ASIATIC SEMITES.

Divisions.—The Asiatic Semites are divided into two great branches—the *northern* and the *southern*. To the southern belong the remnants of the ancient people, the Mahra, Achdam, etc.; furthermore, the *Himyarites*, the South Arabians or Joktanides, whose language, the Himyaritic, now extinct, bears the closest relation to the Ethiopian. It is more distantly related to Arabic, which is spoken by the *Central Arabians* (Ishmaelites), and is divided into different idioms according to place and time. In the most ancient shape in which it has come down to us it exhibits more original forms than all the northern languages of the Asiatic Semites; and Eb. Schrader is correct in seeing in these South Semites the original stock of the Semites, which from the oldest condition, as shown in the Mahra tribes, developed first to Himyaritic, and later on to Arabian, culture. The Arabian is not a filial language of the Himyaritic; both are only related.

Among the northern Semitic nations we must mention—

(1) The Aramaic stock, to which belong the *Old Babylonians* and *Assyrians*, also the *Chaldeans*, the descendants of the Old Babylonians, and the *Syrians*.

(2) The *Hebrews*, with all their tribes, to whom belong also the *Samaritans*, the *Phœnicians*, and the *Carthaginians*, who are separated from the Phœnicians only by idiom, but whom we of course do not number among the African Semites, as they always remained strangers to the African character.

We shall adopt in the following description the plan pursued heretofore; that is, we shall treat of both divisions together. In this manner the similarities and dissimilarities of both become more apparent.

Physical Characteristics of the African Semites.—The *Berbers* are generally of middle though slender stature, lean yet muscular. Their color is a light brown, but also varies from black to European white: throughout the entire Western Sahara the inhabitants of the mountains are of a light color—those of the lowlands dark (Duveyrier); and this light color also belongs to the Kabyles of the high points of the Atlas. As they have also light hair, it has been supposed, without reason, that they might be of Vandal origin; and the explanation of the dark complexion by intermixture with Negroes is equally unfounded. These interminglings occur frequently in the south, perhaps also in the east: in other parts they have been attributed to imported female slaves, but certainly their influence could not affect the whole tribe. Otherwise, the hair is black, mostly long and frizzy, sometimes short, and the hair of the body and beard is scant.

The features are frequently those of Negroes, but modified—lips thick, the mouth large, the nose broad and rather flat (*pl.* 105, *fig.* 8). A more European or Arabian physique is also found—oblong faces, aquiline nose, thin lips (*pl.* 105, *fig.* 5); which type principally prevails in the north (Morocco, Tripoli).

The *Tuarick* are of this latter type; they are generally of a bronze color, and are distinguished by graceful hands and feet. Among the Berber tribes an unpleasant odor (see p. 44) of the skin is perceptible, said to be similar to the exhalation of the Negroes, but much worse; the same is stated about the Fellahs in Egypt; and to the Jews also a specific unpleasant odor of the skin is ascribed.

The *ancient Egyptians* varied in type from European to Negro features. Their build was slender, of middle height; the color generally of a light copper-red, but also from honey-yellow to blackish; the forehead lofty, but generally retreating; the eyes almond-shaped, sometimes a little slanted; the nose not projecting much, with broad nostrils, but generally curved and aquiline; the lips full and projecting; beard scant; the hair of the head black, long, and straight (*pl.* 103, *fig.* 9; *fig.* 5, extreme figure to the right). That this type bears close relation to the Semitic is shown by Figure 5 of the same plate, where an Egyptian leader conducts a party of Jewish prisoners: the captives have flatter foreheads, lower vertexes, more prominent and more curved noses, and the men have a more abundant beard. The Copts (*pl.* 103, *fig.* 3) and the Fellahs have faithfully retained the old Egyptian type up to the present day.

The *Nubas* are often smaller than the Fellahs, lean, with ugly limbs, but with graceful hands and feet. The color varies from a light brown to the Negro black; the hair is black, long, soft, closely curled; the beard scant; the features are similar to the second Berber type shown on Plate 105 (*fig.* 5). The hair of the Fundshes is similar; the color is dark brown to black; the nose straight or slightly aquiline, the lips, although not Negro-like, full, and consequently projecting (*pl.* 105, *fig.* 2). The Bisharis are described as of the same character, only their hair is more abundant and is often artistically arranged (*pl.* 98, *fig.* 5). Their beards also are scant.

The *Abyssinians* show a double type: the one with oval face, curved, fine nose, somewhat full but not everted mouth, beautiful eyes (*pl.* 98, *fig.* 3); the other more Negro-like, with thick lips, broad nose, and expressionless eyes (*pl.* 98, *fig.* 2). The color varies between a brownish-yellow and black, but does not differ according to the shapes of the faces; the hair is sometimes frizzy or even woolly (*pl.* 98, *fig.* 3), sometimes straight or wavy (*pl.* 98, *fig.* 2); but there are innumerable intermediate forms. The hair also is not conditioned by the type of the face, for with Caucasian features woolly hair is found, and with more Negro-like faces (but in that case always oval) straight hair (*pl.* 98, *figs.* 2, 3); the stature is medium, and the bodily construction among most tribes is good (*pl.* 98, *fig.* 4).

The *Gallas* answer the same description: the color varies from a wheat-yellow to black; the build is good (*pl.* 96, *fig.* 1); the hair black, long, straight, or frizzy to wavy; the face roundish; the nose flat and broad, rarely curved; the lips—especially in the middle—thick and projecting, a type which in different variations may be observed among the Danakil and the Somalis; and among the latter the Edurs as well as the Midshertains, who belong to the Darruds, present it. An almost pure Negro type is exhibited by the woman from Magadoxo (Mogedshu) (*pl.* 102, *fig.* 1), also by the inhabitant of Merka or Meurka (*pl.* 92, *fig.* 19), which city is south of Magadoxo. The Wakuafi (*pl.* 86, *fig.* 17) are exactly like the Bantu people (comp. with the illus. of them *pl.* 88, *fig.* 2; *pl.* 92, *fig.* 10). The Edur woman (*pl.* 101, *fig.* 1) exhibits long, straight hair, together with a broad nose and thick mouth, while, on the contrary, Figure 3 (*pl.* 101) (Gulf of Aden) and Figure 5 (*pl.* 102) (south of Cape Gardafui) show a Jewish nose with thick lips. The high, somewhat retreating, and narrow forehead is peculiar to all. Figure 2 (*pl.* 100) illustrates the good stature, the various construction of hair, and the conical form of the female breast.

Physical Characteristics of the Asiatic Semites.—Passing into Asia, we see the *Arabians* with oval face, vaulted forehead, straight or curved nose, thin not projecting lips, retreating chin; the hair, where it is not shaved, straight, wavy, or curly, worn in various manners (*pl.* 104, *figs.* 4–7). Their color is a pale yellow, like that of South Europeans, brown and black; their figure is lean; their hands and feet are often small and graceful; their beard is abundantly developed (*pl.* 104, *figs.* 1, 3, 8, 11, 12). The African Arabs are often perfectly black, and fleshier than the Arabs in Asia, and everywhere the Arabians (also the Berbers) deem fatness a necessary requisite of female beauty. Of course there are numerous variations of this prevailing type: the inhabitants of the mountains are mostly of a light color; the tribes of the interior of Yemen have thick lips, etc. It is a fact of great importance that the Arabian tribes which have preserved the most ancient type, the Achdam and Shumurs, have a blackish skin (lighter than the Somalis); a very large mouth, together with thin lips; a broad, not flat nose; and frizzled long hair—thus varying not inconsiderably from the type of the Arabs.

The *Assyrian* type, as it has come down to us on old representations in Nineveh, shows, with a vigorously-developed body, great similarity to the Jewish features (comp. *pl.* 103, *fig.* 5, with *pl.* 106, *fig.* 2), only the hair is more developed; it falls in long and heavy curls to the neck of the men, and the beard reaches to the breast in locks.

The original type of the Jews has been remarkably modified in various countries by climatic and other influences, and in accordance with the types prevailing in the regions where they are domiciled; but in Yemen and in other Asiatic regions the original type has been largely retained (Maltzan). The color of the Jews is a very light brown, always lighter than that of the Arabs, and in Syria and Arabia a faint, sickly

white. The mountain-inhabitants of Syria are also of a very light though healthy color, with gray or blue eyes (which are also found among inhabitants of the mountains of Arabia and the Kabyles of the Atlas), and frequently with a reddish beard.

Skull.—The skull-structure of the Semites shows much uniformity: it is hypsistenocephalic (according to Welcker) among the Abyssinians, Copts, and Fellahs; mesocephalic among the ancient Egyptians, the Arabs, and Berbers. The skulls of the latter are rounder than the skulls of the Arabians and the Guanches, and those of the Jews are broader. We have illustrated a modern Egyptian skull on Plate 103 (*figs.* 6–8), which (*fig.* 8) shows a slight prognathism; among the Gallas some individuals are found with pronounced prognathic skulls, and indeed this structure is not unfrequent in the southern portion of the Semitic region. Some Jewish individuals among us exhibit it. The skin of the Semites is thin and smooth, and nowhere thick and velvety like that of the Negroes.

Disfigurations.—The women of the Berbers and Arabs frequently tattoo their faces (*pl.* 105, *fig.* 5) or their hands and arms. This is rarely seen with the men, but the Danakil scar the skin, and some inhabitants of the Tigré tattoo in the same manner as the women, and in Amhara all over their bodies. The women also paint the eyebrows with antimony, and the finger-nails (sometimes also the toe-nails) with henna. In some places (among the Bisharis, the Somalis) the hair is dyed red with lime.

In ancient times the Bisharis extracted two incisor teeth, in the Negro style; piercing the ear-lobes is practised everywhere; ornaments are rarely worn in the nose (*pl.* 101, *fig.* 1). Circumcision is practised almost everywhere, being absent only among a few pagan tribes and among the Christians. In East Africa the girls are circumcised, and the disgusting custom of infibulation prevails.

Clothing.—We need to make but few remarks about the dress of these peoples, as our plates sufficiently exhibit it. The Berbers and Tuarick wear a white gown and pantaloons, and over them a girded and often gayly-colored overdress with sleeves; the head is covered with a red cap and is always wrapped with a cloth, which partly covers the face (*pl.* 100, *fig.* 4). They carry on their blue belts weapons, a bag for tobacco, and all kinds of utensils (*pl.* 100, *fig.* 4). The women wear several long blouses of cotton, which they fasten with a red belt; often a large wrap is added, in which they can completely enfold themselves (*pl.* 105, *figs.* 5, 6). The man represented in the latter figure wears only a girded blouse and the headkerchief. Shoes of leather are very common.

The Arabians wear either short or long pantaloons; over these a long white cotton shirt with wide sleeves and a belt; a large wrap in which they can completely enfold themselves; and on the head generally a piece of goods hanging down the back of the neck and on each side, with which they can cover their mouths; the men also wear turbans (*pl.* 104, *figs.*

1-3, 8, 10; comp. *pl.* 92, *fig.* 1); leather shoes are frequent (*pl.* 104, *fig.* 10; *pl.* 105, *fig.* 7). Many Arabians wear an entirely Turkish garb (*pl.* 104, *fig.* 12).

The dress of the old Assyrians, whose principal colors were white and blue, consisted of long garments with shorter overdresses, which often had wide sleeves, and of high pointed caps. The king wore a high tiara; warriors were attired in a closely-fitting girded blouse of gay material fastened by overlapping (*pl.* 106, *figs.* 1, 2). It was without sleeves, like the long "coat of many colors" of the captive Jews (*pl.* 103, *fig.* 5. See ASSYRIANS and illus., Vol. II.). The old Egyptians were similarly attired, the narrow garment beginning below the breasts of the women (*pl.* 103, *fig.* 9); and the men, especially in working, were content with a white wrap about the hips and upper legs (*pl.* 103, *fig.* 5. See EGYPTIANS and illus., Vol. II.).

The costumes of the Nubians and of the Copts of to-day coincide with those of the Arabs and Berbers (*pl.* 103, *figs.* 1, 4); and so do those of the Abyssinians (*pl.* 98, *figs.* 1, 3, 4, 6; *pl.* 99, *fig.* 1; *pl.* 100, *fig.* 1; *pl.* 101, *fig.* 1). The Gurage woman, from a tribe dwelling in North-eastern Kaffa, wears a veil-like head-scarf of strange shape (*pl.* 98, *fig.* 1); bright skins constitute, here as among the Berbers, an ornament for the men, and are worn as wraps (*pl.* 98, *fig.* 4, the rider in the background; also *fig.* 3); the rider (*fig.* 4) wears a diadem-like, ribbon-ornamented head-decoration (comp. *pl.* 96, *fig.* 1, the crouching figure to the right), but, with the exception of short pantaloons, he is otherwise naked.

Among the Gallas we find a union of several costumes. The two women in the centre (*pl.* 100, *fig.* 2) show Abyssinian attire, while the standing female figure (*pl.* 102, *fig.* 3) is dressed in a manner which reminds us of the old Semitic garb which we have just described. The man standing at her side wears the long shirt of the Arab, without a belt; but otherwise these peoples, as well as the less civilized Arabian tribes (*pl.* 105, *fig.* 4), are satisfied with a scarf, to which the nobles add a cloak; leather sandals (*pl.* 99, *fig.* 11; *pl.* 101, *fig.* 6) are much in use. Children go about naked (*pl.* 98, *fig.* 6; *pl.* 100, *fig.* 2). The costumes (*pl.* 92, *fig.* 19; *pl.* 98, *fig.* 2; *pl.* 101, *figs.* 2, 3; *pl.* 102, *figs.* 1, 5, 6) remind us of Negro attire, and especially the tying down of the breasts (*pl.* 98, *fig.* 2; *pl.* 102, *fig.* 6). There is no lack of ornaments; the illustrations give various examples: we call attention to the long ear-pendants on Plate 100 (*fig.* 2).

The Bishari (*pl.* 98, *fig.* 5), as do most of the Nubians, wears in his hair a wooden needle with which to scratch the head without injuring the arrangement of the hair. Such scratching may often be desirable, as these nations on account of their uncleanness are much infested with vermin. The Tuarick and the Berbers never wash otherwise than with sand; they wear their clothing until it falls from their bodies. The Tuarick men rub their entire bodies with indigo-powder, and the women their faces with ochre, while the Nubians and Gallas anoint themselves all over

with grease in the South-African manner, by which processes the obnoxious odor of the skin is greatly increased.

Building.—In their style of building the Somalis resemble the Negroes, as is proved by Plate 101 (*fig. 13*), but they prefer to lay out their villages at secure spots on steep banks of rivers, etc.—a precaution rarely taken by the Negroes. The sheds on Plate 102 (*fig. 3*) remind us of the sun-roofs of the Negroes and Fulah (*pl. 90, fig. 7; pl. 92, fig. 20*). Magadoxo (Mogedshu) is built in the Arabian manner (*pl. 102, fig. 2*) with flat roofs, on which the inhabitants sleep during the night. The Berbers build and live in a similar way. The African hut has maintained its place by the side of the house (*pl. 102, fig. 3, background*).

The houses of Abyssinia (*pl. 98, figs. 4, 6; pl. 100, fig. 1*), and also those of Nubia (*pl. 100, fig. 5; pl. 103, fig. 2*), repeat the model of the Negro and Bantu houses (*pl. 84, fig. 2; pl. 86, fig. 2; pl. 99, fig. 2*), carrying it out more in detail: the building is more comfortable and beautiful (*pl. 98, fig. 6*). The Monbuttus on the upper White Nile had halls similar to the great one of the king of Abyssinia (*pl. 99, fig. 1*), and the arrangement of huts in courtyards (*pl. 100, fig. 1; pl. 101, fig. 13*), which also contain receptacles for storage, etc. (*pl. 103, fig. 2, background*), is just like that of the Negroes. On Plate 100 (*fig. 1*) the master of the house occupies his accustomed place in the shade of the projecting wall, from which he can survey the entire yard; the door-keeper sits in the lookout by the side of the door: it is accessible by means of a ladder.

Miserable huts of skins, half-globular like the Hottentots' abodes, are found among the uncivilized tribes of Arabia, as also on the island of Abd-el-Kuri (*pl. 105, fig. 4*), which is situated between Socotra and Cape Gardafui. The nomadic Arabs and Berbers live in leather tents (*pl. 104, fig. 9*). It is well known how splendid was the building of the ancient Egyptians, Babylonians, and Assyrians (*pl. 106, fig. 1*); and the old tomb of Jewish origin (*pl. 106, fig. 5*) is also an interesting specimen of architecture.

Domestic Life: Stock-Raising, Hunting, and Agriculture.—The Berbers and many Arabs are mostly stock-raisers and carry on agriculture to a small extent. Their domestic animals vary in the different districts. At an early period they had cattle, goats, sheep, camels, horses (*pl. 106, fig. 2*), and donkeys (*pl. 103, fig. 5*); bees are also extensively raised. They take great pleasure in the chase, which they carry on with their weapons of war; crocodiles and hippopotami are captured with harpoons (*pl. 99, fig. 12; comp. pl. 86, fig. 13*) in the same manner as among the Bantu nations. In Africa the doura is the principal grain, figuring as an article of exchange among some Arabic tribes of East Africa; there are also rice, millet, maize, and in upper Abyssinia wheat. The agricultural implements are simple: the primitive Abyssinian plough (*pl. 99, fig. 16*) consists entirely of wood.

Food and Stimulants.—The Berbers eat voraciously with spoons, and

likewise the African Arabs with their fingers. Plate 99 (*fig. 1*) shows an Abyssinian banquet, and also the manner of crouching around the table, of serving, and of eating with knife and hands. There are many spirituous drinks—palm wine, doura beer, etc. Tobacco is a favorite stimulant. They smoke in a manner similar to that of the East-African Negroes (p. 336): in the mouth-piece of the Nubian pipe (*pl. 99, fig. 5*) the liquid containing the nicotine is accumulated in bast-fibre, which is chewed. Other kinds of pipes, in which the smoke passes through water, are exhibited on Plate 102 (*fig. 3*, the sitting figure to the left) and on Plate 98 (*fig. 6*, to the right), and these last-described pipes produce the effects of the Bantu pipes already known to us (p. 315; *pl. 90, fig. 6*). Very different and much finer are the (Turkish) pipes of the Arabs (*pl. 104, fig. 11*, to the right).

Utensils.—We see on Plate 100 (*fig. 2*) Danakil women carrying water in bowls made of ostrich egg-shells: a similar vessel, like the one carried by the naked child, is seen on Plate 99 (*fig. 14*), though the Fundshes do not use egg-shells, but plait all their vessels, even those for liquids (*pl. 99, figs. 13, 14*); as do also the Somalis (*pl. 101, figs. 5, 8*). Earthen vessels of various shapes used by the Nubians are shown on Plate 103 (*figs. 1, 2*); by the Berbers, on Plate 105 (*fig. 8*); by the Abyssinians, on Plate 98 (*fig. 6*). Horns of buffalo or other cattle are used as drinking-cups in East Africa; one of them hangs on the wall to the right on Plate 98 (*fig. 6*). The same illustration, in the background to the right, shows a woman making bread-cakes—for here bread is made everywhere in the shape of Easter cakes or Jewish *matzos*—while on Plate 102 (*fig. 3*) the two standing figures in the foreground to the right pound grain in a wooden mortar.

Household Goods.—We also exhibit household goods, such as chairs and stools (*pl. 102, fig. 3*); others are shown on Plate 98 (*fig. 6*); clumsy tables of wood (*pl. 99, fig. 1*) and a sofa-like frame which serves as a bed on Plate 98 (*fig. 6*, the harp-player sits on it; comp. *pl. 88, fig. 10*). An axe of the Somalis for domestic use is exhibited on Plate 101 (*fig. 7*). A female slave spinning with a distaff kneels to the left on Plate 98 (*fig. 4*, in the foreground), and other more awkward spindles, around which the thread is wound by turning the centre stick, are shown on Plate 99 (*fig. 17*, those of the Fundshes, and *fig. 10*, of the Nubians). The artistic spinning of the Gallas is illustrated on Plate 102 (*fig. 3*, the sitting figure in the background), and in the same cut the weaving of this people is shown (the figure sitting outside the house, to the left; comp. *pl. 90, fig. 6*), which is like that of South Africa. Fine leather fabrications of the Somalis are shown on Plate 101 (*figs. 4, 9*): it is well known that all these peoples have extraordinary skill in the workmanship of leather. Plate 105 (*fig. 1*) shows artistic wood-carvings of the Arabs.

The oil-mill of the Gallas (*pl. 102, fig. 3*) is rather primitive, as is also the shipbuilding of the East Africans, although it is difficult to build ships on the upper Nile on account of the scarcity of material. The

Nubians often hire out as boatmen, and communication in these regions depends chiefly on the Nile navigation. Plate 97 (*fig. 8*) shows a bark of the upper Nile, with a scaffolding for freight.

Technical and Industrial Arts.—Most of the African nations of whom we now treat rank no higher in technical and industrial ability than the better Negro tribes—a fact which will become apparent on comparing our different plates. But the Berbers deserve higher praise: they have in their cities many mechanics—for instance, weavers, goldsmiths, shoemakers, potters, masons, and others; and the Fezaneers, although their country is barren in raw material, are a very enterprising mercantile people and shrewd in the pursuit of business. All these nations manifest eagerness for trade and for the acquisition of property. Many of the Berbers can read and write; the Tuarick have even invented a peculiar alphabet, and the same is said of the Gallas. Their astronomical knowledge amounts to little, and is generally intermixed with mythological notions.

Fine Arts and Architecture.—The artistic accomplishments of the modern Semites, both in Africa and in Asia, are insignificant. The decorations of the great Hall of Ankober (*pl. 99, fig. 1*) reveal some taste, especially the painted animals of the upper frieze, representing elephants, etc. The buildings on Plate 100 (*fig. 1*) are also graceful. But this amounts to little compared with old Egyptian and Assyrian architecture and painting (*pl. 103, fig. 5; pl. 106, figs. 1, 2, 3, 4*). However admirable these old Semitic productions were, it cannot be denied that these arts soon became formal and torpid among the Semites themselves, and furthermore that many of the principal tribes, such as the Arabians and the Aramæans, have accomplished almost nothing in this direction.

Music.—It is the same with music. For although the old Hebrew music occupies a high rank, considering its period, and although it had an influence by no means unimportant even on later times, still it remained unprogressive. The Arabians also show themselves to be void of artistic talents: their music is closely related to the old Hebrew; they have pretty, soft national songs, but no more, and in general they do not prize music. In North Africa there are short solo songs, generally of a plaintive though not unpleasant melody, such as are sung, for instance, by the Nubian boatmen and the Gallas, and there are wild war-songs (Gallas, Tuarick), which are sung or screamed with great passion.

Musical Instruments.—The instruments are numerous—flutes of various shapes, curved horns, kettledrums, cymbals (*pl. 99, fig. 1*, to the left, in the foreground), and different kinds of stringed instruments, as the harp on Plate 98 (*fig. 6*), which is in use throughout the entire valley of the Nile; a mandolin-like instrument which is played with a bow is seen on Plate 99 (*fig. 1*, to the extreme left); at its side is another in the shape of a cittern, and, like it, played with the fingers. It, or an instrument much like it, is in the hands of the figure sitting opposite to the harp-player on Plate 98 (*fig. 6*). But the Abyssinian music is only noise with

a little rhythm; the illustration of a court concert on Plate 99 (*figs.* 1) is not evidence to the contrary.

Poetry.—Of all the forms of Semitic poetry, only the lyric is of any importance. The Arabians, and especially the Hebrews, have accomplished something noteworthy in this line, but it has not been developed among them. The little songs of the Arabians are to-day just what they were one and two thousand years ago, and the poetry of the Nubians, the Gallas, Tuarick, and Berbers is similar to them, being short lyric outbursts, such as the moment inspires.

Weapons.—It may be said that the life of some of these nations, especially of the Berber and Arab tribes, consists of war. In regard to the weapons, we meet one South-African peculiarity in North Africa—namely, a short dagger carried on the left forearm by means of a leather strap, as among the Tuarick (*pl.* 100, *fig.* 4), the Nubians (*pl.* 98, *fig.* 5; *pl.* 99, *fig.* 8), and the Galla nations (*pl.* 101, *fig.* 10). It is encased in a leather or copper sheath. In addition, the Tuarick from the time of manhood carry on the right arm a stone ring, which they never take off, and which serves them as an instrument of striking when in close combat. Besides the dagger, the three principal weapons of the Semites are the bow and arrow, the spear, and the broadsword, like those made in Solingen, Rhenish Prussia (Duveyrier).

We find all these species of weapons in the ancient paintings of Nineveh, which show how the bow was used in hunting and in war, how it was stretched, and how carried when not in use (*pl.* 106, *fig.* 2; *figs.* 1, the wall-paintings). We also observe quivers filled with arrows and strapped to the back; feathered arrows are seen on the corpse lying on the ground, an empty quiver at its side (*pl.* 106, *fig.* 2). This latter varies greatly from the modern quivers of the Somalis (*pl.* 101, *fig.* 11), whose long arrows are also feathered, but whose points have numerous barbs. The Tuarick sometimes poison their arrows.

The broadswords are also ancient; they were carried by the Assyrian warriors in their belts (*pl.* 106, *fig.* 2), as they are at present by the Tuarick (*pl.* 100, *fig.* 4), the Nubians (*pl.* 98, *fig.* 5), the Gallas, and the Arabs. The two last-named nations have swords with curved blades (*pl.* 96, *fig.* 1; *pl.* 104, *fig.* 12), as also have the Abyssinians (*pl.* 98, *fig.* 6, in the background on the wall behind the pillar); but the straight ones are also in use (*pl.* 99, *fig.* 1).

The spears serve for piercing, and are frequently three metres (118 inches) in length; they are also found in the ancient periods (*pl.* 101, *figs.* 2, 12; *pl.* 103, *fig.* 5; *pl.* 104, *fig.* 1); under the point they sometimes have barbs (*pl.* 102, *fig.* 3, the third figure to the left). Shorter spears, as carried by the Tuarick (*pl.* 100, *fig.* 4) and the Arabian (*pl.* 104, *figs.* 10, 11), serve as javelins. Some Nubian tribes have clubs (*pl.* 99, *fig.* 6), and the trum-bash, in the shape already known to us (p. 343; *pl.* 99, *figs.* 4, 9), is used by the Nubians, who have probably adopted it from the south.

Long or circular shields serve as arms of protection, the former among

the Berbers, the Tuarick, the Fundshes (*pl.* 102, *fig.* 4), the Nubas (*pl.* 98, *fig.* 5), and the Wakuafi, and of almost the same shape as the Caffir shields (comp. *pl.* 98, *fig.* 5, with *pl.* 85, *fig.* 9), except that those of the Fundshes have a recess in the centre for the hand; those of circular shape, formerly used by the Assyrians (*pl.* 106, *figs.* 1, 2, below to the right), are at present used by the Gallas (*pl.* 96, *fig.* 1; *pl.* 101, *fig.* 2) and the Abyssinians (*pl.* 98, *fig.* 6, on the wall behind the pillar). Among some Arabic tribes a kind of helmet of matting is found (*pl.* 99, *fig.* 15), and the pointed caps of the Assyrian warriors (*pl.* 106, *fig.* 2) are probably war-dresses. Among the Tuarick (*pl.* 100, *fig.* 4), the Bisharis (*pl.* 98, *fig.* 5), the Somalis (*pl.* 101, *fig.* 2), and the Arabians (*pl.* 104, *fig.* 8; *pl.* 105, *fig.* 7) we see fully-equipped warriors. The latter cuts exhibit the frequent use of the gun.

Warfare.—In North Africa the wars, which are generally cruel, are mostly conducted by raids and for booty. The Gallas are notoriously cruel, and the Abyssinians and other tribes are little less so. With the exception of the Arabians, and perhaps the Gallas, Berbers, and Tuarick, they can scarcely be called brave, as is evinced by their manner of warfare, by their surprises (comp. *pl.* 105, *fig.* 7), and by their speedy flight in open battle. When in passion they perform incredible deeds of valor and foolhardiness, as the histories of Carthage and Jerusalem testify. The great wars of the Arabians and the brave resistance of the Kabyles are also based on similar passionate excitements, either of a religious or patriotic character. In this respect their similarity to the Negroes becomes again apparent.

Family Life.—On the whole, the women occupy a high rank. However, the Berbers (and also the Syrian sects) believe them to have no souls, and polygamy prevails everywhere; yet the women of the Tuarick, who go about unveiled, but are perfectly moral, are well treated by their husbands. Adultery, which rarely occurs, is punished with death. It is considered an honorable thing for the wife to have several male friends who pay her special attentions, who act as much as possible according to her pleasure, and who are always at her side, but whose intimacy never degenerates into anything improper. Among the African Arabs also woman occupies a high position, and the same was the case in ancient Egypt, while, on the contrary, the modern Egyptians and the inhabitants of the cities of Nubia are said to be exceedingly immoral.

The Berabra and Bisharis and the rural inhabitants of Nubia are different: among them the women are free, but strictly moral; polygamy is rare, and marriages are binding and durable. The Abyssinians present a contrary picture. Although Christians, and as such obliged to practise monogamy, they live in polygamy through extensive and public concubinage. Polygamy is allowed among the Gallas, but the men are generally satisfied with one wife, while the Wakuafi take many wives. It will be seen from the pictures of the women in our illustrations that they are not badly treated, in spite of the infibulation there practised. Among the Gallas the girls get

a dowry; in other places in Africa the woman is purchased from the parents, as among the Asiatic Semites; among the ancient Hebrews, and at present among some Negro nations, a poor man might earn his wife by his labor.

The wedding is celebrated by a festivity. Generally the men and women live and eat together, although among some tribes the women are obliged to eat alone. Among the Tuarick they turn their backs to the men while speaking, which is considered a mark of respect. Much work is assigned to the women, but in this respect the Tuarick occupy a high rank; among the Wakuafi they carry the burdens, because a man is not permitted to carry anything on his head or back. If a woman becomes a widow, the brother of the deceased husband must marry her. The old Egyptians permitted marriage between brother and sister, and traces of this custom are found elsewhere in Africa and Asia. In other places (South-Berber tribes, tribes of the Arabians) some remains of the ancient custom of carrying off the bride by force have been preserved.

Parentage.—The children are on the whole treated well, and among the more civilized nations are educated and instructed. The mutual love of parents and children is, as among the Negroes, very strong. But among some Arabian tribes new-born girls are frequently killed. The Phœnicians often sacrificed their children to the gods, and traces of the same custom are found among the Hebrews (Abraham and Isaac, Gen. xxii.). The Gallas sometimes expose their children. Circumcision, which is practised by the different nations at different times, with some only at the time of manhood, is often celebrated with a festivity.

Inheritance.—Among the Tuarick and some Berber tribes in the south and north the daughters are the principal heirs, and inheritance passes through the female line. Among the Gallas, on the contrary, we find the same conditions regarding inheritance as among the Hottentots: the oldest son inherits everything—even during the lifetime of the father if the latter becomes old and unfit for war. The heir must care for his father and give a dowry to the sisters, while the younger brothers get nothing. Among the Asiatic Semites the oldest sons are the principal heirs, but the younger sisters and brothers receive a share. Joint responsibility of the family and blood-revenge are obligatory, and the obligation of the latter is inherited from generation to generation.

Government.—The polity of the Semites has developed from the family. The Tuarick and the Berbers have three castes—the nobility, the priests (marabouts), and the serfs; and besides these there are slaves, who are generally war-captives. The serfs are composed partly of members of the nobility who sought the protection of more powerful families, of subjugated tribes of the same race—the same class is found among the Wakuafi, who have no slaves—and finally of liberated slaves; for here, as among the Arabians, it is customary to free the slaves at the death of their master.

The priests are closely connected with the nobility. From the latter one or other family may have risen to royal power, but it did not maintain itself for any length of time; the other families displaced the mon-

arch and again assumed their old power. The nobles alone constitute the public assemblies in which important affairs of the people are discussed; and in each noble family, in each clan (Duveyrier calls them *tribus*), the oldest has the supremacy. The northern Tuarick consist of two tribes, the Azdjer and the Ahaggar, no marabout families belonging to the latter.

Constitution.—The separate households (families in the strict sense) constitute the family (*tribus*); the different families, who are originally related to each other, the tribe, but the different tribes have no other connection. This was essentially the constitution of the ancient Egyptians, whose division of castes was based entirely on the family, and whose warriors and priests corresponded to the nobility; it was also that of the ancient Hebrews, and remains among the Arabs, the Gallas, the Wakuafi, and the Nubians, only that among some of these nations a kingdom has appeared, either merely temporarily, as among the Jews and many Arabic tribes who are now entirely free, or permanently, as in Egypt, Abyssinia, and among the Gallas.

Chieftainship.—Among the Wakuafi the dignity of the chief is not hereditary; it is awarded to the ablest man. But this king was originally only the head of the family or of the tribe, as is shown in the fact that a stranger is perfectly secure among the Gallas if the chief declares himself to be his father—that is, if he accepts him among his children or tribe. The stranger has by this act become a Galla. The original sanctity of the king, such as we have found it in Assyria (comp. *pl.* 106, *fig.* 1), in Egypt, and among the Gallas, favors the idea that the king was considered the supreme head of the family, and everywhere had charge of the family sanctuaries.

Among the Abyssinians the king is not allowed to eat with his hands: certain officials, the only persons who are allowed to see him eat, put the meat into his mouth: consequently, whenever he arranges a festivity he does not eat with the others, but looks on from an adjoining room, his table being screened by a curtain (*pl.* 99, *fig.* 1). We have already learned the meaning of this custom in Polynesia (p. 194): the king was sacred, and whatever he touched became sacred and was removed from ordinary use, and hence all food was put into his mouth. For the same reason he could not be in the same place with the others, and therefore he had a separate cabinet in the banquet-hall of Ankober, and a separate house from which he pronounced judgment (*pl.* 100, *fig.* 1).

The servile veneration due to kings everywhere in the Orient, the crawling up to him, kissing the ground before him (*pl.* 99, *fig.* 1; *pl.* 100, *fig.* 1), etc., have their origin in this notion. Such rulers could attain perfectly unlimited power, but, the separate families of the tribe having equal power, an aristocratic constitution (Tuarick, Berbers, Hebrews) was the necessary consequence, or the nations dissolved into separate tribes, as was the case with the Berbers, the Tuarick (Azdjer, Ahaggar), the Arabians, and the Gallas.

Judiciary.—The administration of justice belonged among the Egyp-

tians, and still belongs among the Berbers and Tuarick, to the priests; among other nations, as the Arabians, it has passed into the hands of the nobility or of the king. Thus, among the Abyssinians we see the latter addressing the people (*pl.* 100, *fig.* 1) from his house of judgment, while in the foreground to the left two condemned criminals are led away. The punishments are generally barbarous, but fines are accepted for many crimes.

Religions.—Most Semites now profess a monotheistic religion, being either Mohammedans, Jews, or Christians. Christianity among the Abyssinians is rude and vague, the Islamism of the Berbers and Tuarick is no better, and among both an infinite number of pagan ideas have been retained. The original religion of all Semites consisted in a veneration of the heavens and of the heavenly bodies, but the worship of these soon changed to that of inferior deities, especially of the guardian spirits and local divinities. Thus, the Wakuafi (Krapf) venerate the heavens, *Engai*; but even in the ancient period there dwelt on the "White Mountain" a supernatural being called *Neiterkob* or *Neiterukob*, who gave children to the first couple of mankind and promulgated necessary rules of life. To him the Wakuafi pray; he presents their prayer to the *Engai*; and, as among the neighboring Wanika, who belong to the Bantu, the souls of the dead act as mediators with heaven, so we see in *Neiterkob* the guardian spirit of the Wakuafi.

The religion of the Gallas is similar (Waitz): *Ilak*, heaven, created man of clay; to him men pray; but between man and heaven there are two deities, one male, the other female (the latter the symbol of fecundity), who bring all blessings—just as, in Egypt, Osiris and Isis were sometimes supposed to stand between the heavenly god Ra and man. There are also inferior spirits, believed to be either good or evil; and the men, women, and children each have a separate god, no doubt a guardian god. The Tuarick are now converted to Mohammedanism, but only superficially, as they yet profess their old pagan religion: they have a god in heaven, a devil in hell, and innumerable ghosts in human shape who dwell in rocky regions and are much feared.

The oldest Arabian religion, as it can be reconstructed from pre-Mohammedan times, coincides very closely with this. The fundamental religious view of the Arabs was monotheistic, and it seems as though the veneration of heaven was the basis of their monotheism. But the deity had mediators—either the sun, who was thought to be masculine and impregnating, or the moon, who was feminine and receiving: the stars also served as mediators. The different tribes had different objects of veneration. Trees and sacred stones were worshipped, and offerings were brought and pilgrimages made to them; they were girded with swords and anointed with oil, but they were never considered as being themselves gods; for the Arabians frequently declared that the stones and the stars are not sacred, but only God, who is enthroned on them and whose power is partly infused into them. As each tribe had its special mediator besides

the sun and moon, we find guardian spirits prominent here, like those among the Gallas, who have the same veneration of stones and trees. On these old monotheistic views Mohammedanism was erected; and they still prevail among the Arabians of the Southern Desert.

Among some Arabic tribes the souls of the deceased are considered as mediating spirits or deities; nay, even a humanizing of the ancient gods is found among them, as among the Hottentots. There is no scarcity of haunting spirits, genii, etc.; the soul is believed to be winged and to abide near the grave. That the old Hebrew religion coincided in its main traits with these ideas is shown by some passages of the Bible, narratives, prohibitions of pagan usages, etc.; also by the religion of the most closely-related nations, among which the cult of the sun and moon was predominant. We know less about the ancient character of this religion because it was early converted into a monotheism, and the worshippers of Jehovah destroyed everything pagan.

Idols were frequent among the old pagan nations, the Aramæans, the Assyrians (*pl.* 106, *fig.* 1, the man-lions and the winged hawk-headed beings at their side); among the Gallas and the Arabians holy stones and trees take their place.

What the Arabs and the Jews have accomplished both as nations and as individuals by their religious enthusiasm, or rather passion, is well known, and its undiminished vigor is evident from the fact that thousands of Arabian pilgrims (*pl.* 105, *fig.* 3) annually visit Mecca. True religious sense cannot be denied the Asiatic Semites, although sometimes, when their prayers are unanswered, they punish and curse their idols, and although some horrible abuses, such as the Moloch cult, have existed; and the African Semites have been proved to possess the same sense. We have found it also among the Negroes, and the fundamental traits of all African religions bear a striking similarity to the Semitic belief.

Animism and Superstition.—Veneration of animals is also found among the Semites. To this belong the various prohibitions of food among the Gallas, Egyptians, Tuarick, Arabians, and Hebrews. When they kill large animals, such as hippopotami, elephants, etc., they undergo various religious consecrations; dancing around a buffalo head (*pl.* 96, *fig.* 1, performed by the Gallas) is such a ceremony of appeasement, the slain buffalo being honored by the dance, and, as it were, implored to forgive his slayers.

Birds are often deemed to be the incarnation of gods, of guardian spirits (*pl.* 106, *fig.* 2, to the left above), and of souls. Snakes are sacred either as good or evil spirits. Among the Gallas a snake is believed to be the ancestor of the human race, while the Wakuafi, and the Arabians in some of their legends, represent man as created by gods from the soil of the earth on a sacred mountain. Everywhere there are werewolf ghosts; in East Africa the ability to change themselves into animals is ascribed to the smiths.

Superstitions are innumerable: among the Arabian tribes of Africa the

faith is stifled by magic, evil eye, amulets, good and bad days, and other superstitions which the priests expounded. Victims are slain, and in ancient times even human beings were sacrificed—a practice still retained among the Gallas. The priests of the latter entwine in their hair the entrails of the sacrificed animals, and wear them until they fall off. They make rain, heal the sick—for sickness is possession by evil spirits—foretell from the offerings the omens, lots, etc. However, they are nowhere really respected, not even the marabouts of the Islamites.

Sorcery and Magic.—Sometimes sorcerers and sorceresses are distinct from the priests; sometimes the priests are magicians. These nations have religious societies, such as those of the Mumbo Jumbo among the Negroes, and the Wato among the Gallas. Something similar is found among the north-western Berbers and most of the Mohammedans, but it is difficult to decide what is an old institution and what a transitory sect.

Eschatology.—The Semites believe in a life after death, either as a shadowy existence or similar to the earthly life. From this originates their care in preserving the bodies of the dead, the “embalming” among the Egyptians, Berbers, Guanches, etc. The belief in future reward and punishment is also widespread. The Tuarick, although Mohammedans, leave the place where some one has died, and avoid pronouncing the name of a deceased person for fear of recalling him; the Abyssinians, although Christians, shave their hair (the entire nation does so at the death of the king), scar their faces, and inflict wounds on their temples by burning.

Ceremonies at Death.—In the house of the dead and on the way to the burial-place loud lamentations are uttered, and they are repeated every eight days during the course of one year, on which occasions they renew the burning and scratching. The mourners are impure for a certain time; for three days after a funeral they are allowed to eat only in the house of mourning. The Galla nations have similar mourning ceremonies: to touch the dead, to have anything to do with them, renders one unclean, even in Arabia and other parts of Asia, because the deceased already belong to the gods. Among the Semites we also find taboo laws, as we have called them according to the Polynesian expression (p. 200); that is, the laws of religious interdiction. Everything belonging to the gods or bearing any relation to them is withdrawn from ordinary use; ablutions and fixed ceremonies secularize—*i. e.* annul the religious interdict; and, as in ancient times trespasses against this interdict were the only offences that could be committed by man, ablutions are numerous in the cult of these nations.

The practice of washing the hands before meals is derived from the same source; and for this reason every one who has touched a dead person must withdraw from human society, because he is impure—that is, originally, taboo, interdicted, sacred—and can return only after a specified time and after certain ablutions. Therefore such classes as are occupied with dead animals, as butchers, tanners, etc., are impure and despised—at first merely separated from human society, and later, as the separation became

permanent on account of the daily renewal of their occupation with the slaughtered, despised on account of the separation. That barbers and leeches belong to these "impure" castes is not because they have an unclean profession, but because, on account of being continually occupied with the hair (the leeches dressed the body), they became "taboo;" for everywhere among these tribes the hair is sacred, for which reason it is given to the dead as an offering: many tribes of the Arabs sacrifice the hair of the forehead to the gods. Similar uses existed among the Jews; *e.g.* the Nazarites wore during the term of their vow unshorn locks, which at its expiration were cut off and burned on the altar (Num. vi. 5, 13; Judg. xiii. 5). The ceremonial washing of the hands which the Pharisees practised, and which Christ strongly rebuked (Mark vii. 5-16), arose from similar ideas of defilement by touching unclean things and of secularization by ablution.

Offerings and Burials.—The Semites buried their dead in vaults and frequently made offerings at the tombs. The offerings, as well as much that was placed in the graves (for instance, among the Egyptians), were destined for use in the Hereafter. When the Gallas burn a pile of wood on the grave, it is to provide for the soul an easy path into eternity either on the flames or the smoke. Burial-chambers are erected on the supposition that the deceased lives on in the vicinity of his body. Both manners of erecting burial-chambers among the Egyptians exist among the Semites; burial-vaults hewn in the rock were in use among the Guanches, and also among the ancient Jews, as the narratives about Abraham, Isaac, and Jacob prove (Gen. xxiii. 9, 17, 19; xlix. 29-32). The grave of Lazarus was also, according to the history of his resuscitation, a subterranean and rather spacious chamber (John xi. 38). Plate 106 (*fig.* 5) shows an old Jewish tomb at Tibneh, south-west of Lake Gennesareth. Each arch leads to a separate burial-place; the sculptures no doubt have a religious meaning; the whole may have been erected during one of the last centuries before Christ. The Arabs of Hauran erect the burial-chambers on the summits of mountains, as these are sacred to the gods.

The graves of the Gallas, as well as of the Somalis, are built of masonry on level ground, and are decorated with mosaics and surrounded with thorn-hedges or stones; the dead are interred in a crouching posture. This manner of constructing graves forms the transition to the other manner of building them, which we see artistically complete in the pyramids of the Egyptians. It is done by heaping together stones so that they may enclose a hollow space in which the corpse is placed. Plate 106 (*fig.* 6) shows such a stone tomb of Syria; in the country of the Midsherthains these heaps of stone are seven or eight feet high and from fifteen to eighteen feet broad, attaining among the Danakil a height of one hundred feet in a pyramidal shape. Waitz, from whom we take this information, reminds us of the custom of the Hottentots, which is also much practised in the Orient, of throwing a stone on the grave of a famous man, and thus gradually erecting a monument (p. 302).

Punishment by stoning, as also by burying alive, both of which were inflicted only in case of blasphemy—that is, violation of taboo—is nothing more than the erection of a burial-vault in which to isolate the criminal, so that he may do no harm; personally, they dare not touch him, as, on account of his connection with the taboo, he pertains to the gods.

Intellectual Faculties.—With regard to the mental faculties of this people, a lack of imagination is first perceptible, of which we have spoken (p. 360); and this lack of imagination, together with great mental power, produces a susceptibility to exterior impressions and a developed inner life often associated with great sensuousness. This has led the Semite to that enthusiasm through which he has become the creator of the most important religions of the universe.

Warm piety is everywhere exhibited, and great hospitality and a certain sense of chivalry cannot be denied the Berbers and Arabians. Often a pure love of honor is shown in their love of truth, which, however, has remained unsullied among very few tribes. Furthermore, the great perseverance exhibited everywhere by the Semites deserves a special note, whether it be in the carrying out of vast labors (Egypt, Babylon, Nineveh) or in the endurance of physical hardships. This quality has led to admirable deeds and acts, but may degenerate into apathetic endurance of bad treatment. To this is added a marked passion for property and gain which often disfigures their character.

That the natural surroundings of the Semites (the Desert) have done much toward developing these traits of character is an opinion often advanced, and perfectly correct. But it follows that the Semitic race must for a long time have dwelt in the Desert, or rather must have been developed there.

Language.—The language of the Semites coincides with their character. With the least possible means it accomplishes very much, and does it by giving in distinct forms accidental qualities of things, such as singular and plural number, masculine and feminine gender. It is able to express distinctly the logical relations of ideas to one another, by having the forms of words agree in number and person; while by prefixing or suffixing co-ordinate pronouns it can give clear expression to such relations. The more developed languages exhibit more variety and force in this, and they also reflect the tendency of the Semitic mind to symbolism and abstraction. Thus these idioms show the relations of single ideas to other thoughts by changing the round sound of the words in an unmistakable attempt at symbolizing.

Ethnological Relation.—The Negroes and the Bantu bear a close relation to the Semites, for their languages occupy the paths on which those of the Semites had proceeded until they reached the height they now maintain.

In looking back on our course through Africa, we cannot avoid recognizing the fact that the African nations, the Koi-Koin, the Bantu, and the Negro tribes, have so much in common with the two great divisions

of the Semites that we are authorized in placing them in one great ethnologic class.

In the beginning of our ethnologic treatise on Africa we intentionally did not advance this important statement: the evidence of it is given in our description of the African nations, which kept back nothing and added nothing, but simply stated the facts. We now collect the most important points:

1. These nations belong together geographically; it is evident that they spread from Western Asia over Africa.

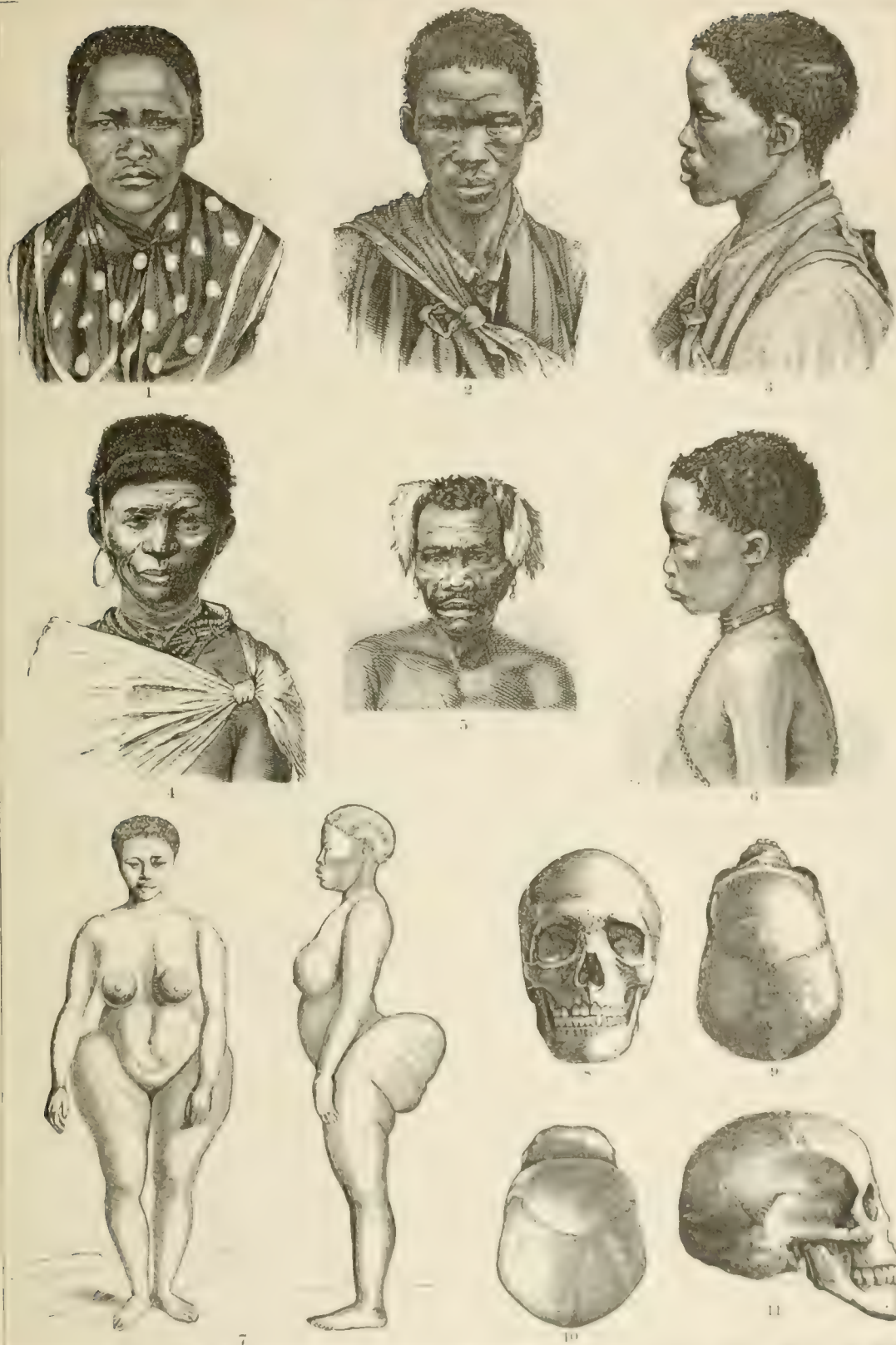
2. The physical peculiarities of all these nations shade into one another; they nowhere show sharp contrasts. Even the typical forms of one nation are not unfrequently found among other tribes where an intermixture is not to be thought of, and where only slight exterior influences have been at work.

3. The psychical life and character of all these nations show close relationship in their fundamental traits: let the Bantu be compared with the Negro of Soudan, and both with the African and Asiatic Semite, and also compare our descriptions of their characters. We need hardly say that those descriptions are not formed from theory, but that the theory is formed from the facts.

4. We find minute uniformity in customs and usages. Of special importance is that of the fundamental traits of religious life and thought.

5. The languages also exhibit homogeneous principles of construction. It is curious to observe how one tribe has developed one peculiarity, and another a different one; how both peculiarities are fully developed only in the Semitic languages; and furthermore how the different principles of construction have been gradually evolved.

From all these facts we are forced to look upon the Arabic-Africans as *one* ethnologic race, as *one* race of mankind.



Kor Kor.—1. Hottentot woman. 2, 3. Hottentot man. 4. Bushman. 5. Hottentot. 6. V. Hottentot. 7. Hottentot woman (full face and profile); "Hottentot Venus," showing the peculiarities of her form. 8-11. Hottentot skulls.



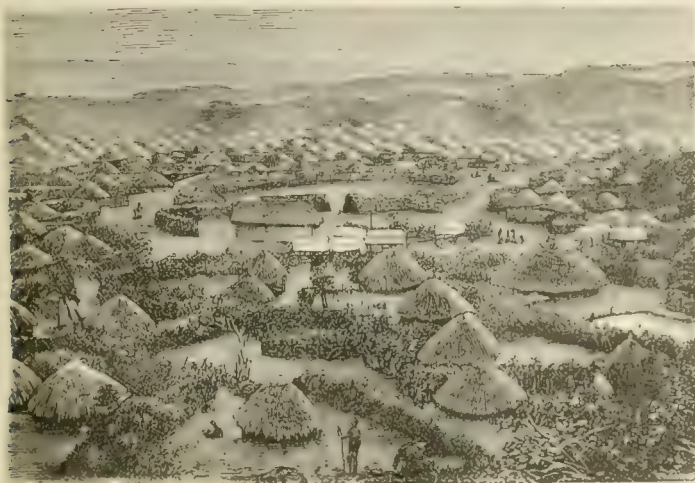
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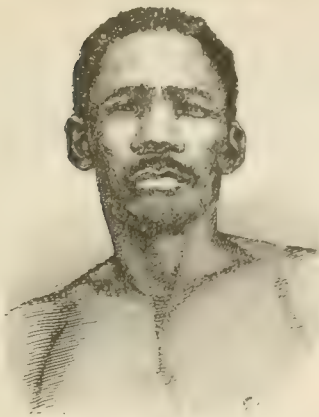
THE BANTU PEOPLES. 1. Musicians and women carrying water, of the Zulu. 2. Part of a village of the Fouta Djallon, seen from above. 3. Betchuana skull. 4, 5. Mulattos. 6. Slave trader, of the same. 7. Young Neger, at the ceremony of the "feast of circumcision."



THE BANTU PEOPLES. 1, 3. Basutos, men. 2. Interior of a Basuto dwelling. 4. Basuto woman. 5. Chief of the Basutos. 6. Warrior of the Basutos. 7. Basutos dancing. 8. Native of the Basutos. 9, 10, 11, 12, 13. Weapons and tools of the Basutos. 14. Spear of the Basutos.



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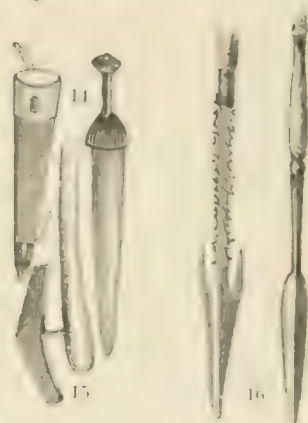
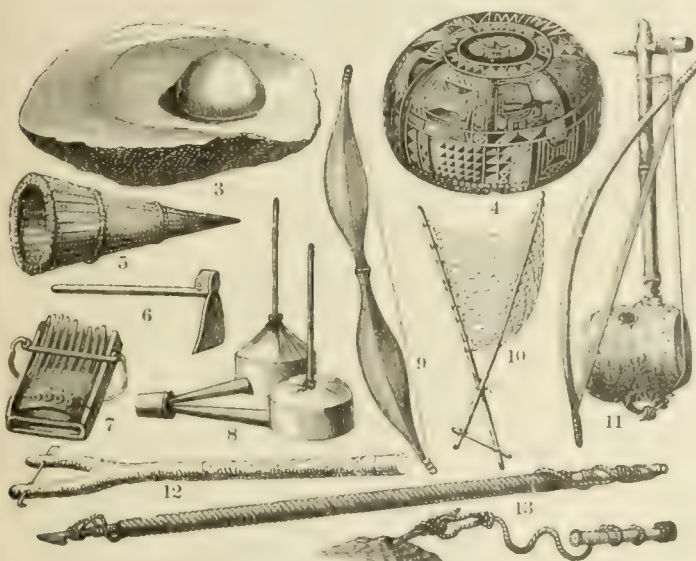


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THE BANTU PEOPLES.—1 3. Koranas. 4. 5. Caffr. Lull. 6. Zulu warrior. 7. Zulu. 8. Zulu woman. 9. Warriors of the Zulus.



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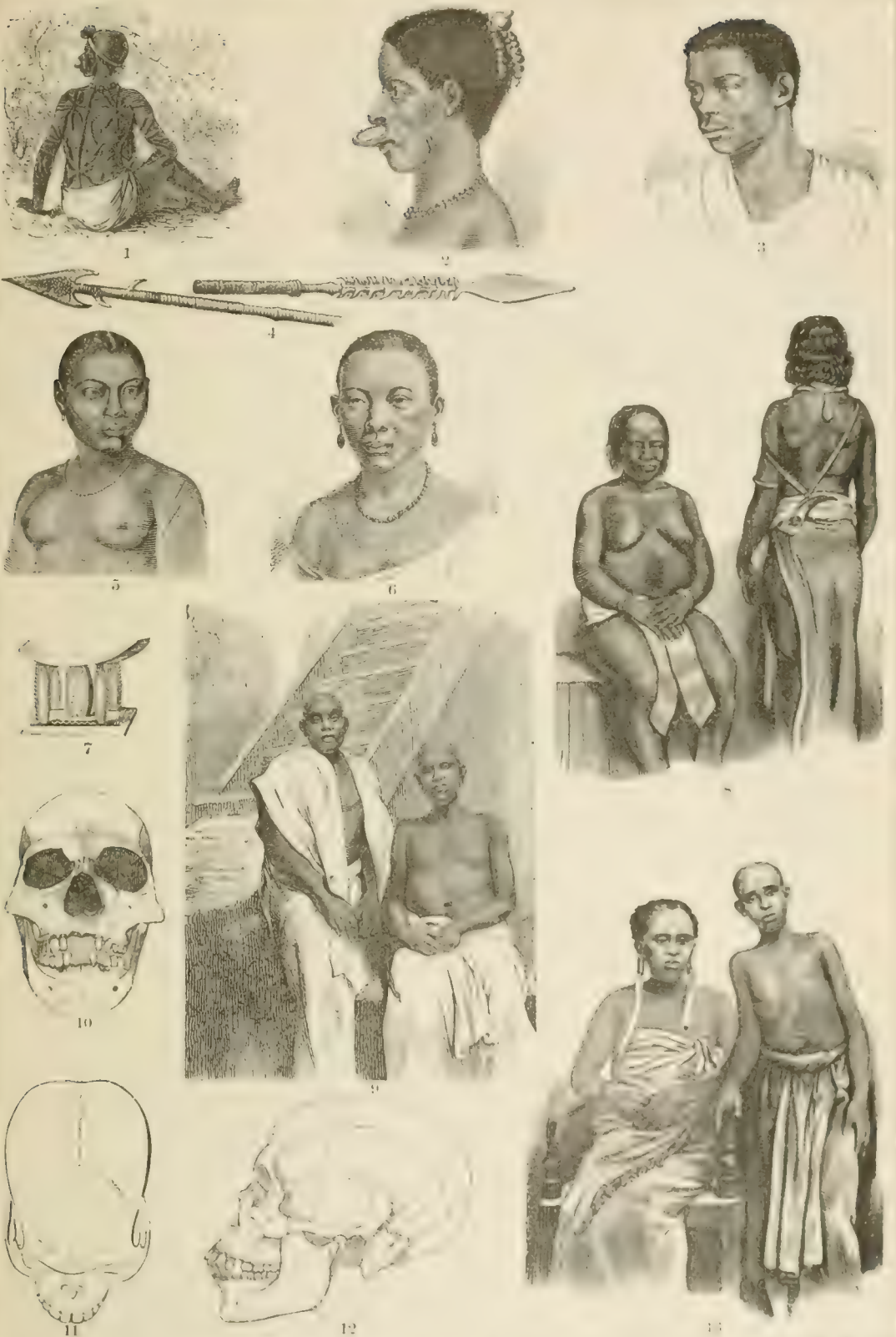


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THE BASU PROFILES.—1. Baskets and wooden vessels of the Basu. 2. Interior of the dwelling of the Basu. 3. Grain mortar. 4. Calabash. 5. Fish basket. 6. Hoe. 7. Musical instrument. 8. Basket. 9. Hand net. 10. Violin and bow. 11. Slave yoke. 12. Hippopotamus. 13. Hippopotamus. 14. Knife. 15. Knife. 16. Knife. 17. Makua woman and child. 18. 19. 20. Ngoni. 1. Makua.



THE EAST INDIES.—1. Arabian of Zanzibar. 2. Ethiopian of Zanzibar. 3. Portuguese of Zanzibar. 4. Portuguese of Zanzibar. 5. Portuguese of Zanzibar. 6, 7. Dagger-like swords, arms of the tribes west of Zanzibar. 8. Native of the East Indies. 9. Native of the East Indies. 10. Native of the East Indies. 11. Wooden pot, of the Tshagas. 12. Suaheli spear. 13. Wooden bowl, of the Tshagas. 14. Chair, in use along the entire coast. 15. An implement for crushing grain, used for the preparation of food; 16. Hoe. 17. Hoe. 18. Wooden pot, with lid, of the Tshagas. 19. Wandering smiths and Negroes tilling the soil.



THE BANTU PEOPLES. 1. Manginva woman, with enlarged nose. 2. Manginva woman, with enlarged nose. 3. Gniola. 4. Arrow of the Avawas and Manginva. 5. Manginva woman. 6. Manginva woman. 7. Manginva woman. 8. Manginva woman. 9. Young Manginva and young Manginva. 10-12. Manginva skulls. 13. Manginva woman and child (Lake Nyassa).



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THE BANTU PEOPLES.—1-3. Gongo Negroes. 4-5. Bantu Negroes. 6. West African Negro. 7. Village of Fernando Po (island). 8. Cabinda Negro. 9. Twella Negro. 10. Gongo Negro. 11. Village of the Niger district.



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THE PEOPLES OF SOUDAN. 1. Negro of the Gold Coast. 2. Idol of the Fusi. 3. A Soudanese. 4. Fulani warrior. 5. Bambara dancer, from the western plateau. 6. Peul Fulahe Negress. 7. Fulani warrior. 8. Soudanese warrior of the sultan of Bagirmi (Central Soudan). 9. Bagirmi Negro. 10. Fulani girl. 11. Fulani woman and child.



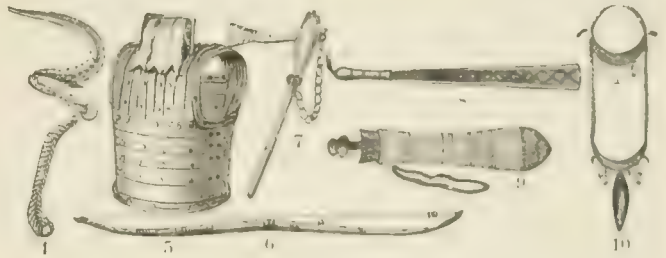
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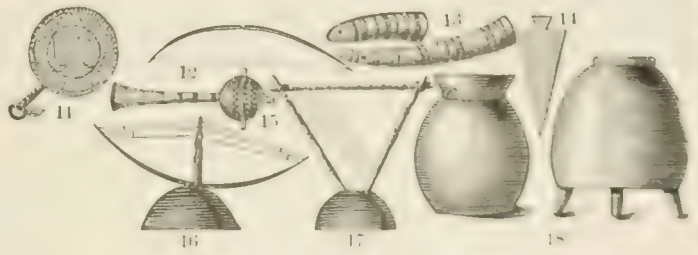


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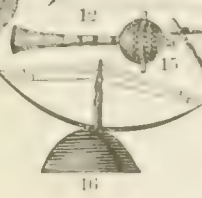
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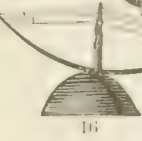
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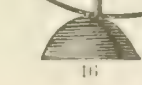
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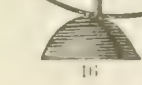
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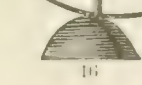
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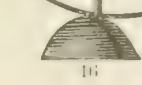
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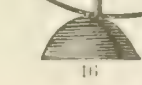
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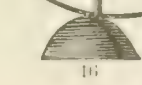
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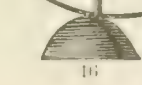
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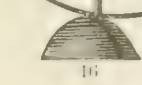
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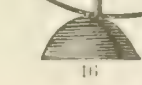
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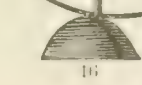
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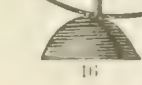
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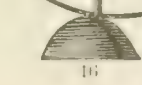
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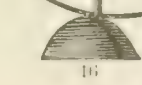
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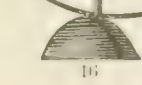
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THE PEOPLES OF SOUDAN. 1. Young Yell. 2. Yell warrior. 3. Nubian. 4. Woman, Musgami. Negroes, musicians. 5. Mungu warriors. 6. Illah (Kru). N. 7. (Kru). 8. (Kru). 9. Earthen oil jar; 10. Stool; 11. Bench (a wooden frame, with mat). 12. Basket. 13. Hut (a hut of the Mungu buttu (Lake Albert Nyanza).



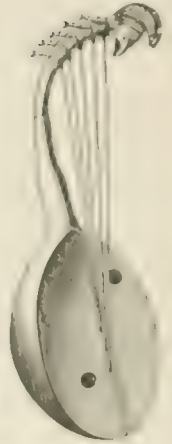
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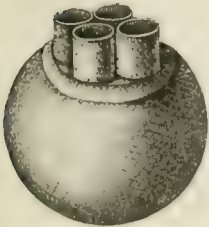
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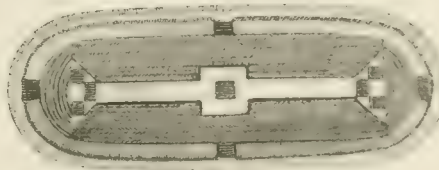
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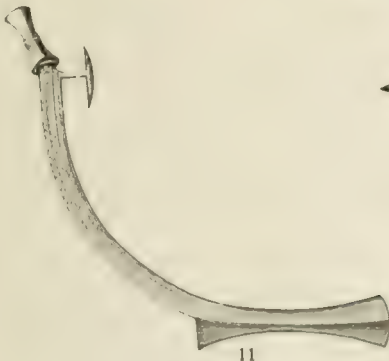
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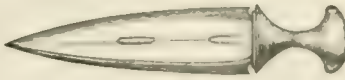
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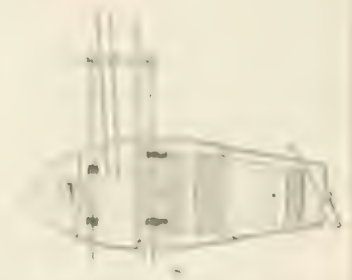
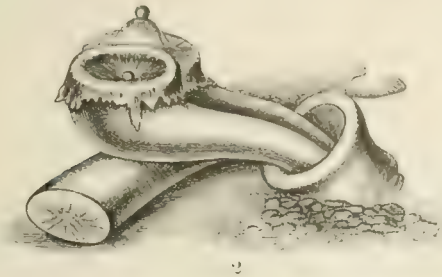


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THE PEOPLES OF SOUDAN. — 1. Woman of the Niam Niam (Upper Nile); 2. Dagger and handle; 3. Wooden bowl; 4. Stringed instrument (guitar); 5. Earthen beer-pitcher; 6. Box; 7. Earthen bowl; 8. Earthen bowl; 9. Stringed instrument; 10. Knife or dagger, with groove for blood; 11, 12. Swords — all of the Niam Niam; 13. Basket, with cover, of the Baswa; 14. Tobacco-pipe; 15. Stringed instrument of the Mitu (Upper Nile).



THE PEOPLES OF SUDAN. 1. GURMA. 2. BELA. 3. GURMA. 4. MUR (Upper Nile). 5. NUER NEGROES (Nile region). 6. SHILLUK. 7. TUKULU. 8. DINKA. 9. NUBIAN. 10. SUDANES.



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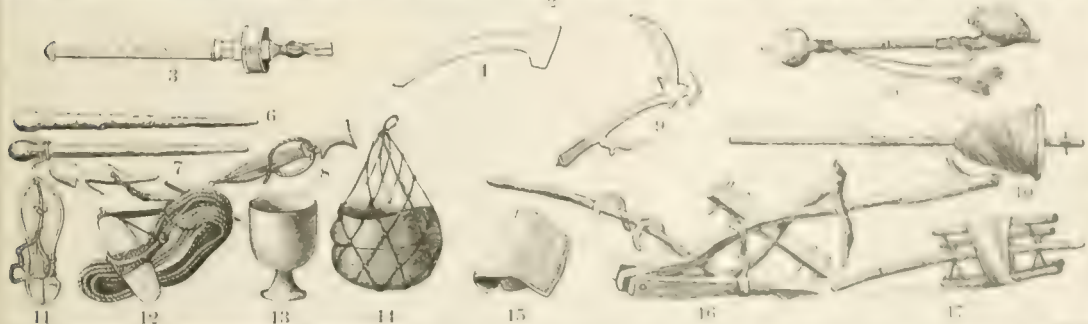
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AFRICAN SEMITES. 1. Galla woman (Abyssinia). 2. Arab woman (Abyssinia). 3. Ethiopian man (Abyssinia). 4. Costumes of the Shoa (Abyssinia). 5. Fisherman (Abyssinia). 6. Interior of a building in the Shoa.



AFRICAN SIMILES. 1. Easter banquet, of the king of Abyssinia, at Addis Abeba. 2. A woman washing her habitation (Abyssinia). 3. Sword of Dahuri. 4. Javelin. 5. Tape. 6. Club. 7. A sword. 8. A sword, carried on the arm, of the Fundshes (Nubians). 9. Javelin. 10. Spindle of the Fundshes. 11. A sword of the Fundshes. 12. Harpoon, for catching crocodiles. 13. Mill basket. 14. Basket, of the Fundshes. 15. War of the Denga. 16. Abyssinian plough. 17. Spindle of the Fundshes.



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AFRICAN SIMILES.—1. Judicial proceeding at Amlak, Morocco. 2. Scene of a judicial proceeding at Amlak, Morocco. 3. Skull of a mummy (Canary Islands). 4. Tuarek (Berbers). 5. Section of a wall at Amlak, Morocco.



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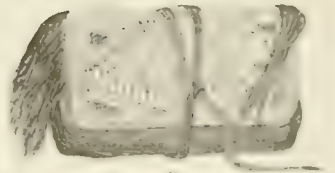
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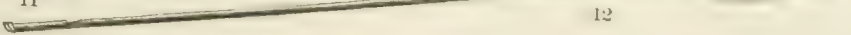
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AFRICAN SAMITES. 1. North-western Somali woman. (F. L. G.) 2. Somali woman. (F. L. G.) 3. Somali man. (F. L. G.) 4. Saddle; 5. Plated pot; 6. Sandal; 7. Small hatchet; 8. Treated hide; 9. Bag; 10. Bow and arrow; 11. Knife; 12. Spear—all of the Somalis. 13. Somali village, Geloh.



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AFRICAN STAMPS. 1. Magadoxo woman. M. 1. 2. View of Magadoxo. 3. Scene at Magadoxo. 4. Shield of the Fundles. Nulau. 5. Magadoxo man. 6. Magadoxo woman.



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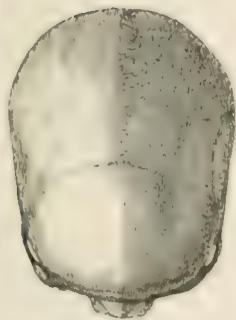
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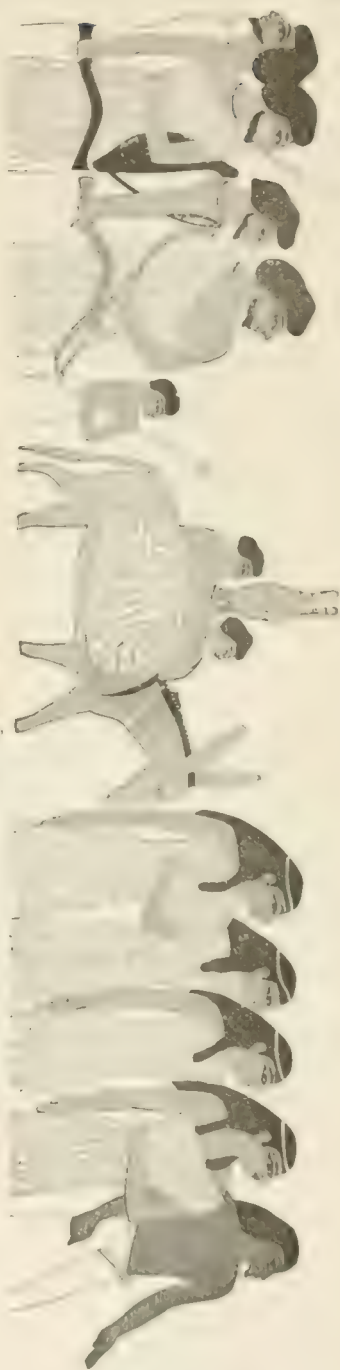
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AFRICAN SEMITES. 1 Nubians (Barabra). 2 View of a Mohammedan grave, in the vicinity of Cairo. 3 Egyptian woman. 4 Two Egyptians and a Mohammedan grave, in the vicinity of Cairo. 5 Egyptian wall painting. 6-8 Egyptian skulls. 9 Hathor, Egyptian goddess.



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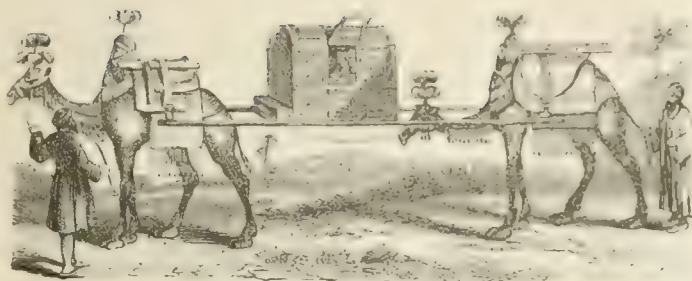


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ASIATIC SEMITES. 1. Tabannah Arab. 2, 3. Ch. L. Arab. 4. Arab. 5. Arab. 6. Arab. 7. Arab. 8. Tabannah Arab of the tribe El Hassee. 9. Camp of the Beni S. 10. Arab. 11. Arab. 12. Akil Aga, Arabian chief on the J. Plate.



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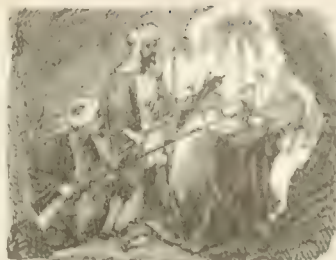
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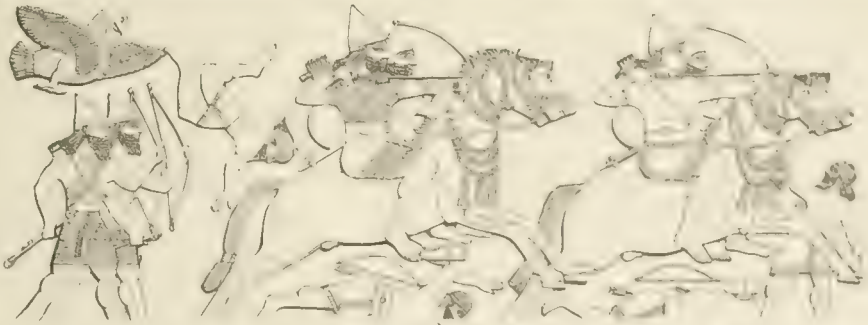


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ASIATIC SEMITES. 1. Litter with camels of an Arab. 2. Profile of a woman. 3. Profile of a man. 4. Tomb of the island of Kani. 5. Woman of Sennar. 6. Man of the Sennar (West Africa). 7. Two men of the peninsula of Sennar (Arabia). 8. Infants of Tripoli.



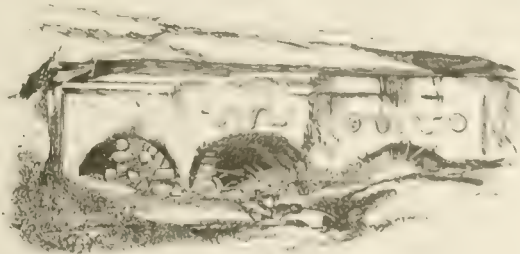
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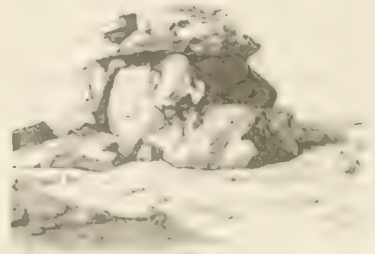
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ASIATIC SIMILES. — 1. Hall of an Assyrian palace (Mesopotamia). 2. Nimrod, a winged figure, attacking a lion. 3. Representation from an ancient Assyrian tablet of Nimrod. 4. Representation from an ancient Assyrian tablet of Nimrod. 5. Old Jewish tomb (Jerusalem). 6. Cromlech (stone grave) of Syria.

VI. THE INDO-EUROPEAN RACE.

A. THE BASQUES.

WE class the *Basques* among the Indo-European race, because, as we see them to-day and as far as we can trace them, they coincide in physical structure and in manner of living with the other nations of Central and Southern Europe, though in language they seem to be entirely distinct.

Classification.—The Basques—who in the Pyrenees call themselves Euskalduns (Esqualdunac, Euskaldunac)—are the descendants of the Vascons, a tribe of old Iberians, the aboriginal inhabitants of Spain. Perhaps they are also related to the Ligurians. At present they live in the northern part of Spain and in the south-western part of France, and are divided according to their locations into six tribes with different dialects. Three of the tribes live in France: the tribe of Soule along the coast, next the tribe of Lower Navarre, and finally the Labortanians or tribe of Labourd. In former times Labourd and Soule were small independent provinces. In Spain there are the tribes of Upper Navarre, of Guipuzcoa, and, farthest to the west, of Biscay. The Basques number altogether about eight hundred thousand, and the educated classes generally speak French or Spanish besides their native tongue. Their finest cities are Bayonne and Pamplona.

General Characteristics and Social Life.—The Basques are of middle size, of graceful, slender stature, with dark hair and eyes and South-European complexion. Much superstition has been retained among their ancient customs; excessive lamentation and self-inflicted torture in memory of the dead have only recently been abolished. Blood-revenge still exists among them, although of course not legally, and in this as well as in other things they exhibit great passion. They are honest, very hospitable, and of a cheerful disposition.

Dramatic performances and lyric poems are numerous and highly prized; their songs are also many and beautiful (Sallaberry). A strange custom exists in Biscay: at the birth of a child the husband goes to bed with the infant and receives the calls of congratulation, while the wife as soon as possible goes about her business—a custom which was observed by Strabo and Diodorus among the ancient Iberians and Corsicans (Francisque Michel). It is probable that both these nations were of like origin, as in ancient times the Balearic Islands had Iberian inhabitants.

Language.—The Basque language (or the Euskara, Eskuara, or Eskara, as they themselves call it) is said to be an incorporative language, and is therefore to be classed with the American idioms. The Euskara contains, indeed, much that is peculiar. The roots are all monosyllabic, those of two syllables having been formed either by prefix or by combina-

tion. The noun is the dominating part of speech, and there are few verbs capable of inflection: Father M. de Larramendi and Abbé Darrigol, both Basques by birth, give only about eighteen in their grammars. On these, especially on two of them, the whole verbal conjugation is based. The language makes a precise distinction between verbal and nominal roots, for all roots do not have both a verbal and a nominal meaning; thus, *handi*, "great," cannot at the same time mean to make great and the state of being great. Nouns and adjectives are declined alike, and nouns may even be compared like adjectives and with the same endings: *mendi*, "mountain;" *mendiaga*, "higher mountain;" *mendiena*, "very high, highest mountain."

There is no grammatical gender, but there is an extensive system of declension, with singular and plural numbers and many cases, among which the nominative and accusative are not distinctly separated. All these forms are attained by certain suffixes which no longer occur independently and have lost their original meaning. There is a definite article, which is joined, as in the Swedish language, to the end of the word: *gizon*, "man;" *gizoná*, "the man;" but if two nouns or a noun and an adjective are united, the article and the declensional ending are attached to only one of them: ¹*ur* ²*garbi*, "²fresh ¹water;" ¹*ur* ²*garbi*-³*á*, "³the ²fresh ¹water;" ¹*ur* ²*garbi*-*ren*, "of fresh water" (*ren* is the suffix of the genitive, and consequently corresponds to our *of*); and ¹*ur* ²*garbi*-³*a*-⁴*ren*, "⁴of ³the ²fresh ¹water."

The pronouns are declined almost like the nouns, but they seem to have retained (according to Abbé Darrigol) some fuller and older forms. In fact, the variety of their forms is their most peculiar feature. There are various though perhaps only dialectic forms of one and the same pronoun: the regular pronoun of the second person, *thou*, has also a polite form in the singular (*hi*, *hic*, *eu*, *euc*, "thou;" *zu*, *zuc*, "thou, you," polite form; *zuck*, *ziek*, "you," plural); and in the verb itself, in which it is an important element, it appears in numerous forms.

Thus, *t* as well as *ni* means "I;" *d*, *da*, occurs as the pronoun of the third person, but not otherwise; and a trace of forming the feminine is found, as with the *hic*, "thou," which is used in addressing a masculine person, an *n* appears when applied to a feminine subject. The inflexion of the verb is entirely dependent on the pronoun; and in the declension also many endings of pronominal origin are found. From all this it will be seen that the pronoun of this language has an especial significance.

The verbal inflexion of the Euskara is not easily explained, but it appears more difficult than it really is. It is based almost entirely on two auxiliaries—on the root *iz*, *esse*, "to be," and the root *eu*, *avoir*, "to have," to which verbal substantives are added. The former of these auxiliaries, *iz*, forms neuter verbs, verbs signifying a state; the second, *eu*, active verbs, which signify an influence on an object (Darrigol).

The following is the form of the present tense:

<i>niz</i> , I am;	<i>gire</i> , we are;
<i>hiz</i> , thou art;	<i>zirete</i> , you are;
<i>da</i> , he is.	<i>dire</i> , they are.

It is apparent that in *niz*, *hiz*, we have the pronoun of the first and second persons—that *ni-z* means "I am," and *h-iz* "thou art;" but what is *da*? It is the pronoun of the third person, but without the verbal root. The verbal root is also absent in the plural: *gi-re* is "we" (*gu*), with the pronominal emphatic addition; *di-re* can be traced back to *da*; and *zi-re-te*, from *zi-ek*, "you," has, besides the emphatic, also a plural ending (*te*). *Ethortzen niz* is, "I come," or, literally, "In the coming I am" (*cn* is the ending of the case meaning "in"); *ethorri-co da*, "he will come," literally, "for the coming he" (*co* is the ending of the case meaning "for"); the sentences are to be completed by the addition of true verbal ideas. A governed pronoun is inseparably united to this auxiliary verb, from which new difficulties arise.

Thus, *ethortzen nuzu* (Abbadie) means "I come for you," where *nuzu* consists of *n*, "I," *u* (*z*), the root whose vowel is changed and whose *z* is dropped before the following *z*, and *zu*, the polite pronoun of the second person. Also, *ethortzen nuk*, "I come to you man," *ethortzen nun*, "I come to you woman," where in *nuk*, *nun*, the *z* of the root *iz* has been omitted before *k* and *n*, the characteristic letters of the masculine and feminine second person of the verbal object. There are also emphatic forms; for example: *ethortzen n-itz-ai-zu*, "I am for you man in the coming," also *n-itz-ai-n*, "for you woman," where the emphatic syllable is probably of pronominal origin.

The root *eu*, *u*, "to have," is used differently. It is always connected with an antecedent pronominal clause signifying the object: *d-u-t*, "it have I"—that is, "I have (it);" consequently, the language does not further designate the accusative, the case of the object, but leaves it indefinite. Therefore, ¹*othoizt* ²*cn* ³*h* ⁴*u* ⁵*t*, "I beg you"—literally, "I begging² in³ you⁴ have⁵ I," I address my request to you, I beg you; also, ¹*othoizt* ²*cn* ³*d* ⁴*u* ⁵*gu*, "we beg it"—literally, "in begging⁴ have⁵ we³ it," or ³*n* ⁴*u* ⁵*c*, "I me⁴ have⁵ you," you beg me. There are some more artistic forms, but their construction is the same.

Where is there any incorporation in this process? There is but one subordinating, suffixing method, which is not essentially distinct from the manner of our language: what we group together the Euskara words into one word. Mahn has very correctly compared Italian forms, such as *inviar-te-lo* for *inviar-ti-lo*, "send you it, send it to you." The abbreviations in the pronunciation of compound words are different from the elisions of the American languages, for the Basque abbreviations are principally euphonic and consist in the accordance of the sounds.

The temptation is far greater to find a similarity to the construction of Semitic languages in this, that the root *iz*, the formative element of the neuter verb, prefixes the subject and suffixes the object, while, on the

contrary, the transitive *eu* prefixes the object and suffixes the subject. But this similarity is merely external, and is based on the rule governing the syntax of Basque words—namely, that the more important precede the less important. For instance, in describing a condition, the subject or the bearer of the condition is of greater importance than the object, the person or thing having part in the condition, and therefore precedes it; and, on the other hand, with a transitive verb the object precedes, as it is of greater importance than the subject, because it completes the action.

As the reader may be impatient with these linguistic investigations, we will point out how much has been gained by them. We expected from the assertion that the structure of the Basque language was like the American to find a real incorporative process in it; but on an unprejudiced investigation we have found that in structure it is not distinct from the Indo-Germanic languages, or at least that it is more closely related to them than to any other, and also that it is not separated from them by sound.

The following are the fundamental traits of the Indo-Germanic languages: The monosyllabic roots may have at the same time both nominal and verbal significations, but the pronominal roots are entirely distinct, and have had, since the most ancient times, only a pronominal signification and hardly any other than pronominal development. The noun and the verb are of distinct formation, even in the earliest derivatives of the root; the verbal stems are strictly distinguished, according as they are nouns or verbs, by the manner of their inflexion; declension, or the inflexion of the noun, is attained by formative syllables derived from the demonstrative pronouns, while conjugation, or the inflexion of the verb, is formed only by suffixes derived from the personal pronouns.

The distinction of genders is perfectly developed in the noun and pronoun, but is almost entirely absent in the verb. The individual parts of speech agree perfectly in gender, person, number, and case, while in the Basque of course they can agree only in number and case. All words are independently developed, and the annexing of a determining suffix to the last word, such as we have seen in the Basque *ur garbia*, occurs only in rare cases (for example, Goethe says: *In der gross und kleinen Welt*).

The development of the nominal relative form is limited: there are about seven cases, and the accusative often (for instance, in the neuter) agrees with the nominative. The development of the verb is remarkable: it is almost always attained by suffixes, rarely by inserted formative elements or infixes, and still more rarely by prefixes; but in the Basque infixes sometimes form the tenses and moods, and a prefix determines the case. In the Indo-Germanic the designation of the personal pronoun is always at the end of these suffixes, or, as in the modern languages (for example, "I go"), at the beginning.

The verb has different forms of time (tenses), different moods, and different voices (active, middle, passive), and hence an extraordinarily rich and consistent syntax has been attained in the most highly developed

Indo-Germanic idioms; which signifies that the linguistic form most accurately expresses the logical relation of the individual thoughts and their parts, and that the construction of sentences is first really developed to true artistic proportion.

We of course do not claim any authentic connection between the Euskara and the Indo-Germanic languages; still less do we think of any uniformity of vocabulary; but we do assert that even linguistically nothing hinders our classing the Basques with the Indo-European race. We believe that in very remote ages, when the Indo-Germanic language had just begun to develop its characteristic peculiarities, the forefathers of the Basques separated from the original stock of the Indo-Germans, and that consequently they are ethnologically most closely related to that race; that is, they separated from them later than from the original stock of mankind. The similarity in the structure of the language which we have pointed out indicates such an ethnological relationship.

Where the *Etruscans* belong is as yet an open question; we merely mention them without attempting to classify them.

B. THE INDO-GERMANIC FAMILY.

The Indo-Germans are the most widely diffused race of mankind, and they still continue to spread. They are the true standard-bearers of civilization, and they have not only absorbed whatever of its elements the Semites had created and developed, but have so fostered them that now Semitic culture has no place by the side of the Indo-Germanic.

In language they occupy the highest rank. This is not so much due to the fact that their tongues are the highest in logical precision and in emotional depth, for that is disputed; and, besides, the Finnish, Japanese, Chinese, and many Semitic tongues are not inferior to the Indo-Germanic in practical value. We therefore will not insist upon this superiority, although it can hardly be denied. But it is a most important fact that those Indo-Germanic nations which have no historical importance occupy the same high rank in linguistic development which is held by the most prominent.

This proves that the entire race is more highly developed than any other; for among others we find but one or a few languages and peoples who have developed into a civilization similar to, or even comparable with, the Indo-Germanic, while the great majority of the remainder continue undeveloped.

It was not the events of history or favorable natural environment which thus highly developed the Indo-Germans. We are obliged to believe that they remained longest in the original home of mankind, and that by this quiet stay they became more developed than the others, who had migrated earlier. Consequently, they were able to subdue the wild and inhospitable regions which then constituted Europe. These earliest migrations from the aboriginal centre of humanity must be correctly considered. The word "migration," which we, yielding to the

common use of language, employ, means something entirely different from what actually occurred. The dispersion of mankind took place by a very gradual, unintentional pushing forward as the stock became more numerous; and gradually, as this extension occurred in different directions, a separation took place, which was all the more positive the more gradually it had been performed. The races spread in the same manner as the original stock; those more quickly whose new home was not inviting, as was the case in Northern Asia; but those slowly who early found a rich and comfortable region.

Thus it was with the Indo-Germans who spread over Persia, Armenia, and Asia Minor, and gradually into Europe. They seem to have moved along the southern edge of the Caucasus to the Crimea, and from Asia Minor across the sea, and perhaps also north of the Caucasus along the western coast of the Caspian Sea, as is shown by two facts—that the Ossetes, an independent Indo-Germanic nation, dwell in the Caucasus, and that the southern Scythians, the inhabitants of the Crimea and of Southern Russia, have been pronounced Indo-Germans (Müllenhoff).

The advance into Europe was in the beginning very gradual, but in their new homes and in their entirely different environment the European Indo-Germans became distinct from their Asiatic relatives. Thus the original single race became divided into two great divisions—the *European* and the *Asiatic* Indo-Germans. These two experienced the same fate as the whole race, and were again subdivided into distinct divisions—the Asiatic into the *Indian* and *Iranian*, the European Indo-Germans into North and South European nations. But the common language had been so much developed, and had become so firmly established, that, though it indeed might separate into numerous idioms, it could nowhere exhibit such pronounced dissimilarities, either in vocabulary or form, as we have found in the languages of other races.

Passing to a brief view of the individual nations, we may begin with the eastern half of the Asiatic Indo-Germans.

I. THE INDIANS.

Classification and General Considerations.—The Indians include, according to Lassen (see *Map*), the *Daradas* or *Dards* in the north-west on the south-eastern slopes of the Hindoo-Kush, and, west of them, the *Kafirs* (infidels—that is, not Mohammedans) or *Sijah-Posh* (that is, “black coats,” because they wear garments of black hides), who formerly lived in Candahar, and are said to have migrated thence in four tribes. Their languages, which are divided into different dialects, as they themselves are divided into different tribes, belong entirely to the Indian family; but in physique they are separated from the Indians as well as from their eastern neighbors the Afghans, for they are large, of fine build, with straight noses, often light skin, blue eyes, and blond hair. They have remained on their original grade of civilization. Their grain consists of wheat and barley, which the women, who live separate from the men, cultivate; and

they have neither horses nor fowls. Their weapons are the dagger, the knife, and the bow and arrow, the bow serving as a jumping-stick in flight. They are a brave people, but their wars generally consist of raids and excursions for booty.

They bitterly hate the Mohammedans, who frequently abduct them into slavery. He only is considered a man who has slain a Mohammedan, and in testimony of his feat he wears a special feather and allows his hair to grow. Some tribes have quite a contrary custom, for they cut off a lock of hair for each slain enemy. Notwithstanding this bitter animosity, some of the tribes have been converted to Mohammedanism. The religion of the others is very simple, and appears to be like the ancient Indian religion in its main traits: they have priests, sacrifices of cows and goats, various ceremonies and feasts, and male and female idols of stone and wood. They also venerate the souls of their ancestors. They are of a harmless, frank, cheerful disposition, fond of music and dancing; they sing much, and have drums and a stringed instrument of one string.

The *Gypsies* also belong to the Indians, probably to a wandering Pariah caste of Western India. They first appeared in South-eastern Europe in the beginning of the fourteenth century. They usually call themselves *Rom* or *Romany*, but sometimes *Sinte*, which latter is supposed to be a corruption of the Indian *Sindh*. Their various dialects retain marked Hindustani elements, although much influenced by the languages of the various countries in which their scattered bands find their homes. Plate 108 (*fig. 7*) represents a Gypsy woman from Wallachia, and may be taken as presenting a favorable type of these wandering outcasts.

In India proper the *Cashmerians*, who speak a distinct and rather peculiar language, form the most northern division. Next follow the inhabitants of the *Punjab*, also with a distinct language, which, however, is more closely related to the main tongue, the *Hindi*. This latter is divided into many dialects; and from it, since the spread of Mohammedanism into India, the *Hindustani*, a form of the Hindi interspersed with Arabic elements, has developed. In the west of India we have as independent languages the *Sindhi* on the lower Indus, the *Gujerati* on the peninsula of Gujerat and in the neighboring regions, and the *Mahratt*, which is widely spread even beyond the fifteenth degree of north latitude; in the east, on the lower Ganges and Brahmapootra, the *Bengali*; and finally south of these the *Oriya* and some subordinate idioms which we omit. Of course these various languages correspond to the different tribes of the Indian population.

Physical Characteristics.—The descriptions of ancient writers still apply to the present Hindoos, who—especially the Brahmans—in their physical construction are exactly like the representations on old Indian sculpture. The Indians are of middle size, the average height being 163 centimetres (64 inches). The limbs are often delicate and slender (comp. *pl. 108, fig. 1*), but there are also very vigorous tribes; as, for example, the *Rajpoots* in Rajpootana (North-eastern Punjab and Aravulli Mountains).

Color.—The color of the skin ranges from a dark yellow to a bronze or soot-black. Some have attempted to account for the latter color by supposing an intermixture of the Indians with the Dravidians; but, though this explanation may be correct for single individuals and regions, it does not explain all cases. We saw that all the Dravidian nations are by no means black; only exposed tribes and individuals are dark; the more protected ones, especially the women, are lighter than the others, and dark individuals are seen among classes where there can scarcely be suspicion of intermixture. It will therefore probably be more correct to attribute the dark color to spontaneous and climatic influences. The latter explanation is partly confirmed by the existence of perfectly light Hindoo tribes among the low hills of the Himalayas.

Hair.—The hair of the head is of a glossy black—not frizzy, but often wavy and curly; the beard grows abundantly (*pl.* 107, *figs.* 2, 3, 8); it is often shaved, except on the upper lip, as is also the hair on the head of the men, with the exception of a few curls at the vertex and on the temples (*pl.* 107, *figs.* 4, 6, 8).

Skull.—The shape of the skull is generally mesocephalic, with a tendency to dolichocephalism (Welcker). The face forms an oval; the forehead is free; the eyes are dark, black or brown, and large; the eyebrows generally curved and finely formed; the nose frequently with the Roman curve, as is shown in our illustrations (*pl.* 107, *figs.* 1-7). This type is best developed among the Brahmans, but it is by no means absent among the Pariahs (*pl.* 107, *fig.* 6).

Dress and Ornaments.—The dress, of which we present several illustrations, is of linen, cotton, and silk (*pl.* 107, *figs.* 1-7, 8, 9; *pl.* 108, *fig.* 1). The hair and beard are often dyed. The finger- and toe-nails of the women, as also their nipples, which are exposed (*pl.* 107, *figs.* 5, 9), are always painted red; their eyelashes and eyebrows are dyed black with antimony. The Indians have various fans (*pl.* 107, *figs.* 8, 9); diverse ornaments, as necklaces, bracelets, and ear-rings (*pl.* 107, *figs.* 4, 7; *pl.* 108, *figs.* 1, 5); pearls and flowers in the hair, nay even in the pierced nostrils (*pl.* 107, *fig.* 5); and veils (*pl.* 107, *fig.* 7; *pl.* 108, *fig.* 4), etc. The painted marks and stripes over or between the eyes or on the neck (*pl.* 107, *fig.* 6) are signs of the different castes (*pl.* 107, *figs.* 1-7, 8, 9; *pl.* 108, *figs.* 1, 5), but a light kind of tattooing is frequently used.

Dwellings.—The elaborate buildings of the Indians and the extravagant taste exhibited in their plastic art are well known. The houses in the large cities are comfortably built in Oriental style, with flat roofs and projecting balconies and platforms or verandas (*pl.* 107, *fig.* 8), for we have adopted into our civilization both the word and the object to which it belongs. Gardens, which are popular (*pl.* 107, *fig.* 9), are cultivated with great art. In that hot climate the people live mostly in the open air; many are satisfied with plain structures (*pl.* 108, *fig.* 5) which suffice for shelter; and the Brahmans especially are wont to live in a simple style (*pl.* 108, *fig.* 3).

Character.—The people are valiant enough, but they have no enterprise. They are fond of repose, but are also industrious, persevering, and patient at their labor. Their chief endeavor is to calm the passions of this earthly life and to gain eternal peace in God; and therefore they rarely exhibit passion. They have great abilities, and are anxious to learn, but they have a decided tendency to speculative meditations. Their penitents and saints are extremely ascetic.

Government.—The government has always been an absolute monarchy, hereditary by primogeniture, and the king may in time of need demand from one-twelfth to one-fourth of all private property (except that of the Brahmans) as a tax. War-services are recompensed by investiture with land. In former times military duty was confined to the Kshattriya, or the caste of warriors, and the other castes were able to pursue quietly their work even in times of war. The king (*pl.* 107, *fig.* 8) and his principal wife (*pl.* 107, *fig.* 9) are objects of the highest veneration. The weapons of the Indians in ancient and mediæval times were bows and arrows, clubs, discuses, spears, swords, shields, and war-chariots; at present only firearms are used.

Family Life.—Marriage is contracted at a very early age, and its ceremonies vary according to the different religions. In ancient times the man took the hand of the woman and walked around the altar with her. The woman remains dependent, but not secluded in the house, and is treated respectfully. The husband gives presents to his wife's parents. Polygamy is frequent, although of late origin, and there are evidences that polyandry was practised in ancient times. Sutteeism is now abolished. Among people of rank the wife often desired to accompany her husband into the other life; but self-immolation was never universal, and was always voluntary. It was believed that every woman thus immolated would live in joy with her husband 35,000,000 years, while otherwise she would have no place in paradise.

Language and Literature.—There are two principal steps of Indian civilization: (1) the older or Vedic period, and (2) the Brahmanic period. Buddhism was developed from the latter as a third step. The language also bears a different character according to this twofold or threefold division. The Vedic language was spoken by the ancient Indians who migrated about 2000 B. C. from the West into India; the ancient sacred hymns of the Indians are composed in it, and it is the mother of all the other Indian idioms.

The second stage, that of Brahmanism, gradually developed from the Vedic period after the people had become established, soon after their migration, and principally in Western India, extending as far as the Punjab, which remained true to the Vedic civilization. Sanskrit was never spoken by the people, for, as its name implies, it was an artificial tongue which the educated Brahmans had formed from the vernacular. It was divided into several dialects, only the latter form of which (the Prakrit) has been retained. Sanskrit literature proper begins about 250 B. C. or a

little later, shortly after Alexander's invasion, and when Buddhism was gaining ground.

These two important events exercised a powerful influence on Indian literature. Indeed, it seems as though the construction of the two great epics, the *Mahabharata* and the *Ramayana*, must be ascribed to direct Greek influence. Buddhism also strongly influenced Indian literature by its deeds and ideas. The northern Buddhists wrote in Sanskrit, but the works of the southern Buddhists were later on (about 420 A. D., according to Weber) translated into Pali, the now extinct dialect of the Magadha country. The Pali thus became the sacred language of all Buddhism, which spread especially from Southern India.

Another cause of its influence was the fact that the new religion, according to the principles of its founder, generally made use of the idioms of the people both orally and in writing, thereby giving new life to them. All these languages, the Pali not excepted, are organic developments of the old Indian tongue. That modern Indian idioms are only deteriorated dialects as compared with the old regularly-developed ones, as is the case with the present Romance tongues in contrast with the Latin, is due to the invasions of the Mongolians and the Mohammedans.

Caste.—The development of the caste spirit belongs to the Brahmanic period, although its foundations are far older and are rooted in the ancient religious ideas which prevail in patriarchal states. But it was strengthened by the special doctrines of the Indian religion. The Brahmins, or priests, constitute the first caste; the Kshatriyas, or warriors, the second; next follow the Vaisyas, or agriculturists; fourth, the Sudras, or mechanics; and finally, the Pariahs and others not included in the preceding castes, such as those who had charge of the dead. The ancient caste system still survives, but it has undergone various changes.

In Cashmere the Brahmins are numerous and influential, but in other regions the caste no longer exists; in the north-west the Kshatriyas have been transformed into a mercantile class; the Kaiths or Kayasthas, originally a lower caste of the Hindoos, rose by connection with the victorious Mohammedans, and are now active in Central and Eastern India as scientists or scribes. The Baniyas (that is, "business-men"), who seem to have been developed from a lower caste, are at present very influential not only in India, but in Africa, Arabia, and elsewhere.

There are some barbarous tribes of Indian origin among whom the caste spirit had not been developed, who settled at a later period in the civilized region, such as the Jats in the north-west and the Rajpoots; and as they have remained distinct from the Indians, they constitute independent classes. By all these transitions the original caste spirit has been much modified. It is difficult to form a clear idea of all the classes and of their condition. The distinction of castes has lost its old severity in the north, but the Indian type is particularly pure in the Brahmins, because they have faithfully preserved the caste traditions.

Religion: Brahmanism.—The threefold development is also marked by different forms of religion. In the Vedic period the Indian religion was a cult of the deified powers of nature, especially of the gleaming vault of the heavens, with its magnificence by day and its infinite vastness at night; of fire, which serves as a sacrificial flame to call forth the gods and to intercede for man; of the winds, and of several other deities. In those times the gods were not represented by images. Soma-liquor, the pressed juice of an *Asclepias*, was the chief offering, and animal sacrifices were rare. The Vedas themselves are collections of hymns sung to the glory of the individual gods, the most powerful of whom was Indra.

The Indian tendency to religious speculation developed a second religious system from this pure naturalism. During the Vedic period the virtues had also been venerated as deities, and now abstract divinities were established by the side of the old natural gods, whose significance was no longer understood. The supreme deity was conceived to be the universal, the Brahma (that is, "the great"), which, existing by itself, generated in itself by self-contemplation a creative desire: thus Kama (love) came into existence, and through it all that is was called to life.

Besides this universal being, which could never become popular, there were deities of the people. Some of them, as Vishnu, are mentioned incidentally in the Vedas, while others, as Siva, are not spoken of. The old gods remained, but without their old significance. In a later form of Brahmanism the deity appears as *Trimurti*—that is, "triple being"—consisting of Brahma the creator, Vishnu the preserver, and Siva the destroyer. Some sects confined their worship to the latter two (*pl.* 107, *fig.* 2). All gods, however, are deemed mortal, for Kala, the god of time, annihilates them, and finally himself, and all again return to Brahma.

In order that man may as soon as possible reach this highest point, this identification with Brahma, he must practise the strictest holiness; which, however, is not meritorious unless it is in exact conformity with the ritual; consequently, a multitude of external postures, washings, pilgrimages, etc. are obligatory, especially for the Brahmans (*pl.* 108, *fig.* 1). Sin hinders union with God, but it can be overcome by devotion and mortification; and by conquering sensuality, human affections, and all earthly thoughts the devotee is absorbed directly into the deity. From such views has grown the asceticism of the Indian sages, which has often reached incredible degrees.

Buddhism.—Buddhism (founded by Prince Gautama, called Buddha—that is, "the enlightened one") developed from Brahmanism in the sixth century B. C., and was made the state religion about the year 250 B. C. Buddha claimed to be no more than human. He prized virtue, and disputed the value of works and ceremonies; he rejected the theory of one religion for the people and another for the sages; and, as he preached

the equality of all men, he wished to abolish the system of castes. Buddhism recognizes no personal gods, but only an Absolute Existence, the cause of the established order of the universe, to which all things will eventually return. Still, the veneration of numerous spirits and saints prevails among the people in opposition to this nihilism. It also holds the view that by doing penance and by meditation one will reach the greatest bliss—that is, become one with the fundamental principle of existence. The Buddhist ascetics frequently live together in cloisters.

Buddhism could not retain its place in India: it disappeared thence in the sixteenth century, but, as we have already seen, it has spread widely in Eastern Asia. It unquestionably has great merits: above all, it teaches that true morality rests on a kind feeling toward our fellow-men. Its abstract character sufficed for the sober East Asiatics, but not for the Indians; consequently, ancient pagan views were retained among both Buddhists and Brahmans, such as the veneration of different animals (apes, snakes, etc.), or of trees (as the banyan, *Ficus religiosa*), or of mountains, which were believed to be incarnations or companions or seats of the deity.

Superstitions.—Prohibitions of food prevail, also countless superstitions—ordeals (oaths were seldom taken) and amulets (generally worn about the neck; for example, *pl.* 107, *figs.* 6, 8). The latter frequently consist of the image of an ancestor, for the belief in guardian spirits and in the protecting power of the dead is common. The souls are also feared, and during the night no Indian can be easily prevailed upon to go to a place whence corpses have been brought or where the dead have been cremated, or to the small buildings in which their ashes are stored (*pl.* 108, *fig.* 2).

The Indians believe in a Hereafter, in reward or punishment for deeds committed on earth, and that each person's condition in this world is determined by deeds done in former states through which he has passed. Dead-offerings are deemed helpful to the departed, that they may become blessed, and consequently all are anxious to raise children who may perform the pious duty of making these offerings for them. Some tribes erect for the deceased small houses like temples, and place within them boards or pieces of wood on which are rudely-carved pictures of the departed or scenes from their lives (*pl.* 108, *fig.* 4).

The religious activity of the Indians has given rise to a number of other sects, such as the Jains, who endeavored to reform Brahmanism, and the Sikhs, deists without any caste distinctions, who recognize only prayer and purification as a worship of God. Even at present their religious life is not dormant. A sect has lately arisen called the Brahmo-Samaj, or "Church of Brahma," which endeavors to give a new form and a new life to the old Brahmanic religion. The marked Christian tendency of this latest form is an important phenomenon of modern India.

We must content ourselves with this short description of the varieties of Indian life. India created Buddhism: at an early period it developed

a solid civilization, which has had an important influence in history; and it has produced in the field of imagination results which are the greatest triumph of the Indian intellect and which have widely influenced the civilization of mankind. We do not refer to extant Indian poems, which, though they are often prolix and insipid, contain much that is most beautiful; almost all the fables and fairy-tales and many of the novels which for thousands of years have been a source of pleasure to the whole world—to the Koi-Koin and the Chinese as well as to us—are of Indian origin. Other nations rank infinitely higher in the forms of poetry, but the poetical invention of the Indians remains unsurpassed, and cannot be too highly appreciated. In this regard they may be said to have laid the foundation of all poetry. (See INDIANS and illus. Vol. II.)

2. THE IRANIAN PEOPLES.

In the history of India frequent mention is made of the *Guchers*, who, though great numbers of them were destroyed in the struggles with foreign conquerors, are dispersed throughout the country, but are found especially in Gujerat. They are *Persians* who fled before the approaching Mohammedans, and consequently they unite India and Persia only superficially.

Classification.—The ethnologic transition between the two countries is formed by that Iranian people bordering on India, the *Afghans*, or, as they call themselves, the *Pukhtaneh* (in the west *Pashtaneh*), whose language, the *Pukhtu* (*Pushtu*), occupies a position similarly intermediate between the languages of the two countries. Their most eastern division, the *Lohanis*, live in India east of the Suleiman Mountains, and are separated into many tribes, the *Veziris*, *Shiranis*, and others. Next come the *Perduranis*, or the Eastern Afghans, in the north-eastern part of Afghanistan, who are also divided into many tribes; and, finally, the *West Afghans*, one of whose principal tribes, the *Ghilzais*, dwells to the south of Kabul, and another, the *Duranis*, occupies the more level but less fertile South-west Afghanistan.

South of these, next to the Brahuis—of whom we have spoken (p. 282)—dwell the *Beloochees* (*pl.* 108, *fig.* 6), who are Mohammedans, and to whom the nomadic tribe of the *Nasirs* in Afghanistan probably belongs. Their language is closely related to the New Persian, and they seem to have come at a late period from the west to their present seats. They are divided into three tribes, and are brave and predatory. Their weapons are the gun, dagger, sword, and shield (*pl.* 108, *fig.* 6), often also the spear.

We now mention the *Tajiks* (*pl.* 110, *figs.* 1, 2), living in Kabul, to the north in Badakshan, and to the table-land of Pamcer, and also in Bokhara, Balkh, Herat, and Seistan, where they have intermingled much with the Afghans and Beloochees, and also in Khiva; they are especially numerous in Western Iran, where they are called *Parsivân*, *Persians*. They speak only Persian, are agriculturists and tradesmen, and as such are dispersed far beyond the boundaries of their own country. They are not

deficient in valor, and they make excellent soldiers. They were formerly fire-worshippers, but now profess Mohammedanism.

The *Lures* in Luristan (middle-sized, strong, of brown color) are linguistically closely related to the extremely thievish *Kurds* (*pl.* 73, *figs.* 6, 9), who live to the north of them as far as the upper Tigris and Lake Van. To them belong the *Dushik Kurds*, dwelling south-west of Erzeroum, who have preserved many ancient customs, although they, like the other Kurds, are Mohammedans. The *Guranes* live among them like a peasant caste by the side of a warrior caste (Spiegel). To the independent Iranian tribes belong also the *Tâts*, near Baku on the western coast of the Caspian Sea, and the inhabitants of Mazanderan, on the southern coast.

Next follow the *Armenians*, or Haiks, whose unmixed tribe, according to Khanikof and Spiegel, lives in Astrakhan. In their native country they have been exposed to various intermixtures with Semites, Turks, etc. Their language, sometimes called the Haikanic, is an entirely independent branch of the Iranian family. The *Ossetes*, or *Iron* (that is, Iranians), as they call themselves, have reached a still more western point: they dwell in the Caucasus, where they inhabit the central passes. Their language and customs are evidence that they belong to the Iranians, and perhaps to the Armenians.

We can do no more than simply mention here the Armenian colonies which have spread as far as Hungary and Poland. In ancient times all Iran was united under the sceptre of the Persian kings; at present Armenia belongs to Turkey, while Persia, Afghanistan, and Beloochistan constitute three independent states.

Physical Characteristics.—Referring briefly to the physique of the Iranians, we may mention the dolichocephalic but rather high skull, whose vertex and occiput are flat. However, the form varies: in the east—East Iran is the true home of the Iranians—it is more pronounced than in the west. The stature in the east is inferior to that in Persia proper and Armenia, where it is often distinguished by slenderness together with perfect vigor. The uncommon size and clumsiness of the feet must not be overlooked.

It is remarkable that in going eastward the skin of this race will be found to grow more dark and rough, while the Kurds and Armenians often have a perfectly South-European complexion. The hair is always—except in a few mountain-tribes like the Ossetes—black and straight or curly; it grows abundantly on the body. The forehead is low, the shape of the face oval; the eyes are finely formed, but generally do not lie deep; the lips of the Armenians are thick, like those of the Afghans, and their features exhibit some similarity to those of the Hindoos and the Asiatic Semites.

The Afghans are of good stature, but the head lies too low between the shoulders; their skin is of a blackish color, feels velvety, and is glossy; the nose is large and flat, the eyes straight, the lower lip thick.

The Beloochees are of a tall and muscular figure, and, especially those living in the hot plain, of a rather dark color. The nose is broad, the forehead low, the hair, growing abundantly like the beard, is coarse. They have remarkably large feet.

The Tajiks are generally small, but thickset; the feet are large, the face broad, their features good, except that the mouth is too large.

The Kurds are often large and handsome, with less broad noses, but otherwise like the Afghans; but among them there are many individuals of clumsy build, of poor proportions, with coarse faces, large heads, and large noses (M. Wagner).

The Ossetes are physically of a peculiar development. Scarcely middle-sized, they are thickset and vigorous, and their hair is either red or blond. The old Scythians of the Crimea and Southern Russia may be called the extreme advanced posts of the Iranians.

Language.—We have remains of two Iranian languages of antiquity—the Old Bactrian, the so-called Zend or the language of East Iran, in which the Zend Avesta was written; and the ancient Persian or earliest West Iranian tongue, which was the language of the Achaemenidean dynasty and their cuneiform writing. The Pehlevi was the language of the Sassanian period: it was developed from the Old Persian, and is identical with the Huzvaresh, as the language of some of the commentaries upon the Avesta is called. The Parsi of the Middle Ages has been developed from and by the side of the Pehlevi, and from it the New Persian, which is much mixed with the Arabic, has descended.

Dress.—Our illustrations show various Persian costumes and castes (*pl.* 109, *figs.* 1-4, 6), which require no explanation, and which are at present the same as about the year 1700, when the famous Dutch painter De Bruyns painted them. It is noteworthy that the old tiara, the high cap worn by the contemporaries of Cyrus, is still a universal article of dress (*pl.* 110, *figs.* 3, 5; *pl.* 111, *fig.* 2; comp. *pl.* 73, *fig.* 6). In Figures 5 (*pl.* 109) and 3 (*pl.* 110) we see warriors—Figure 5 (*pl.* 109) in mediæval equipment—Figure 3 (*pl.* 110) with a kind of culverin fastened to the saddle of a trained camel, but this arrangement is now out of use. The Beloochees live in villages of black felt tents, each village forming a clan. They wear wide pantaloons, a gown-like girdled overdress (mostly blue), and for ordinary use a peculiar cap (*pl.* 108, *fig.* 6); the turban is worn only on festival days.

Architecture.—An idea of the splendor of ancient Ispahan, which was destroyed soon after the year 1700 by the Afghans, as also of its active business-life, is given by Plate 109 (*fig.* 7). The Armenian houses—at least in some villages and small towns—are wholly or partly imbedded in the ground, and the walls are of clay or stone. On Plate 111 (*fig.* 2) we present the interior of such a house, with its strange roof-construction, its benches serving both as seats and as beds, the household utensils, the large Oriental water-pipe of its smoking inhabitants (comp. *pl.* 107, *fig.* 8), the connecting stables (left), and the entrance-door (right).

Civilization.—The Iranians are a highly-gifted people; they have had the ability to form great states; they have developed a rich literature of high poetical value and of historical importance; they have shown themselves subtle, active, and skilful in business, and indeed the Armenians may be numbered among the shrewdest business-men of the world; on occasion they have always shown a capacity for accepting new ideas and for developing them; they are brave, and even heroic; and their ancient laws are distinguished by lofty morality and clemency.

If we find the present Iranian peoples less elevated in their morals—untruth and avarice are common—if we find no independent intellectual achievements among them, some excuse can be made for them in the unfavorable geographical conditions in which they live and in the terrible fate to which they were condemned by the invasions of various nations. We are, however, far from overestimating the achievements and abilities of the Iranians. They stand in sharp contrast with the Indians.

As the regions east and west of the Indus are decidedly distinct in flora, fauna, and climate, so also are the people. Among the nations of the west a spirit of independence and a love of liberty are the main motives of action, and valor is the chief virtue; civilization and the occupation of the land are only sporadically distributed according to the character of the country. Social institutions and fixed civilization are found only in the principal cities, while vigorous shepherd-tribes with patriarchal customs and clad in leather cloaks and sheepskins, not in muslin dresses or silk caftans, roam about in the cooler climate of the mountains and the hot, changeable climate of the plateaus as far as they are habitable.

The individual, the separate tribe, predominates in public life; restlessness instead of refinement in social life, elasticity of body and mind, sober intelligence instead of calm, quiet industry, and a voluptuous imagination prevail, and, in spite of relationship, the Iranians are a pronounced contrast to the Hindoos. This is also seen in religion. Proceeding from common Indo-Germanic fundamental views, what different ends have the Indians and the Iranians attained!

Religion.—We know the Iranian religion only in the form which was given to it by Zarathustra (Zoroaster—that is, "Golden Star;" not a name, but probably only a title) about 1200 B. C. (?) In ancient Aryan times there were many *Asuras*—that is, gods—of equal power, who have been preserved in the Vedic-Indian religion. The Iranians retained the veneration of but one Asura, *Ahuro Mazdao* (Auramazda, Ormuzd), who created the other deities and mankind. All good gods are gods of purity, of light, as the gods of fire, *Haoma* (Soma), "the sun," *Mitra*, "the moon," and the deities of the water; but they are all dependent on Ahuro Mazdao. Opposed to him are hostile demons, gods of darkness, who, though originally created by him, now battle under the command of Ahriman (*Agromain-yus*) against the light, but who will eventually be overcome.

Man, involved in a constant struggle against sin, must take part in this battle in favor of the pure light. The seat of evil is in the north, in the

darkness, in the mist. But eventually Ahuro Mazdao will conquer his enemies and erect a universal united kingdom of light. The souls of men, who are rewarded or punished immediately after death, will have a place in this kingdom, but the wicked must first endure severe punishments.

There were no temples in ancient times, for it was deemed unworthy of an infinite God to worship him within a limited space; but the summits of mountains and other elevated places were considered sacred. The Magi, or priests, who constituted a numerous and influential caste, sacrificed animals as an offering to the gods.

Death and Burial Ceremonies.—According to the teaching of Zoroaster, the dead should neither be cremated nor buried, in order to avoid polluting the fire or the earth; for here, as elsewhere, all that is dead defiles. Consequently, they were placed on high buildings or in open places, so that birds of prey or wild animals might devour them; and he was deemed especially blessed whose body was devoured. The remains were collected in a waxed cloth or in earthen vessels and interred in burial-chambers, which were generally erected on the mountain-sides. At present the Iranians, being either Moslems or Christians, bury the dead in either the Mohammedan or the Christian manner.

The Persians lay out the dead on a bed of state and indulge in loud lamentations and other signs of sorrow; the horse and the weapons of the deceased are placed beside the corpse (*pl.* 110, *fig.* 5). The Armenians celebrate in October a great Feast of the Dead, at which they place burning tapers on the graves and light fires in other parts of the cemetery, and the women especially give utterance to expressions of their sorrow (*pl.* 111, *fig.* 1). The Armenian tombstones (*pl.* 111, *figs.* 5, 6), representing rams, horses, lions, etc., are remarkable. Just as traces of the old religion of light have been retained in the feast of the dead, so we have in these tombs the remains of a belief which is much older than the doctrines of Ormuzd.

We have found everywhere the veneration of certain animals which bore some relation to the gods; such sacred animals were also known to the most ancient Indo-Germanic religion, and consequently the belief in them has adhered to all Indo-Germanic peoples. These animals could intercede with the gods, and were sometimes believed to be the incarnation of a guardian spirit. Formerly the souls of the dead were converted into guardian spirits, and often into hostile ghosts. The ram was considered by the Greeks and Romans, among whom the supplicator wore in some rites the skin of a ram, to be a mediator between the gods and man; and here also the ram conducts the soul to God. Observe the strange sculptures having a mythological meaning on Plate 111 (*fig.* 6).

The lion also is a widely-known and ancient symbol; as such he was placed on the tombstones of men who fell in battle in the prime of life. He was probably a sacred animal and an incarnation of the souls of powerful ancestors, and in this manner the emblems of the Persian flag (*pl.*

110, *fig. 4*) may be understood. The sun represents the servant or the eye of Ahuro Mazdao, or the god himself, and the lion in front is a powerful guardian spirit recommending the warriors and all human kind to the god. (See PERSIANS and *illus.* Vol. II.)

After this short sketch of the Iranians we pass to the *second* main branch of the Indo-Germanic stock.

C. THE EUROPEAN INDO-GERMANIC PEOPLES.

Like Fick, we include the ancient *Phrygians* of Asia Minor among the European Indo-Germans, while the *Cappadocians* seem rather to belong to the Iranians.

The European Indo-Germanic nations, who had been, as Fick has proved by their language, for a long time united, separated later into diverse tribes, probably by a very gradual progression and diffusion.

Deterioration of Type and Language.—In a survey of the European nations one phenomenon is especially remarkable: the farther west we go, the more remote from the original type and the more deteriorated do we find the languages. The Gothic is poor and sterile in comparison with the Sanskrit, and the Old Irish is still poorer, while the Old Greek and the Latin, both in the number and the richness of forms, are far more closely related to the original type.

This relation becomes apparent also in their civilization. How barbarous were the conditions of ancient Germanic life in comparison with those of the ancient Greek! How much more barbarous still those of the old Celts, and especially, in the extreme north-west, of the Scotch! This applies not merely to the coarseness of life, but to a barbarity and wildness in customs such as neither the Asiatics nor the South Europeans exhibited. Compare the Scotch buildings (*pl. III, fig. 4*), the so-called beehive houses, rudely-constructed embankments of clay with an opening at the top for the smoke, some of which have been in use even as late as this century, with the houses described by Homer. The Armenian house (*pl. III, fig. 2*), with its artistic and well-divided inner construction, is rich in comparison; and yet such buildings date from times of repression, while we have a number of imposing Armenian edifices from more ancient times.

Influence of Migrations.—How can we explain this phenomenon? But one explanation is possible, and that is that these north-western people, by their migration into a part of the world so inhospitable as Europe then was, and by their struggle with hostile nature, had deteriorated from a former civilization. The intellect, directed only to the needs of life and to the dangers of the moment, necessarily retrograded under this constraint: it had to exert all its force in order to sustain mere existence. Neither power nor time remained for it to retain the old fulness of sound, the old sharply-divided copiousness of language.

We termed the Europe of that day wild and inhospitable; and certainly this is correct. It was colder and more rainy than at present; it

was covered with impenetrable forests and extensive swamps; lofty mountain-ranges made it impassable; a multitude of beasts of prey (bears, wolves, lynxes, etc.) inhabited it, and also the aurochs and the wild hog, both of which were dangerous animals. Nutritive plants were absent, with the exception of such as the immigrants brought with them, and also grains, of which they perhaps brought rye and oats.

Probably we must look for the first immigrants on the coasts of the Black Sea and in Macedonia. Two reasons support this opinion:

First, the climate was less severe there, and a gradual acclimatization could take place, while at the middle course of the Volga it is unfavorable, and an acclimatization there would have made living in different circumstances extremely difficult.

Secondly, we find the Greeks and Romans in possession of many treasures of language which were highly developed, so that they could not have undergone tedious and difficult migrations. The opinion that these migrations have been the cause of the great elevation and development of the Indo-Germanic peoples has been advocated. But this is impossible. A migration consumes the existing power of a people: it is well if it leave any strength, but it does not create new power. The opposite opinion contradicts the first of all laws of nature, that of the conservation of force.

Influence of Natural Surroundings.—The case is different when a people has accustomed itself to the new country and gradually masters it. The less of its strength it has used in battling with want, the more quickly will it rise amid invigorating surroundings. We must believe all the Indo-Germans to have been equally gifted; at least not the slightest evidence can be brought for the contrary opinion. Therefore neither the Greeks nor the Romans could have been long in an intermediate state before reaching their new home, where, rapidly gaining ground and favored by natural surroundings, they developed wonderfully. But the Thracians and the Macedonians, although occupying their seats since remote times, have achieved far less, on account of the monotony and seclusion of their country.

The other peoples of Europe also reflect in their history the influence of their respective native countries and of their varied experience in their conflicts with nature. The greater the difficulty in overcoming natural obstacles, the later do the people appear in history: with some, as the Lithuanians, such appearance was entirely impossible; owing to country and position, they have remained antique both in customs and in language.

The Celts of the Continent, who no doubt passed north of the Alps to their location, established their chief seat in Galicia, a comparatively comfortable country, but it did not improve their condition. Besides being rather northerly at that early period, it was too large: the ocean was too vast to invite navigation, and the north, west, and south were closed by impenetrable mountains and woods. Therefore the new inhabitants

were entirely dependent on themselves, and even in their later extensive migrations, as far as Asia Minor, they learned nothing more than what they had already learned at home—namely, to wage war and to roam about on the Continent. Imagination, the divine gift of the Indo-Germans, degenerated under such circumstances into rude fantasies or love of finery and of adventures.

The Irish and British were not much different; while the Scotch were at an early period divided by the character of their country into hostile clans. In like manner, the character and history of the Germanic and Slavic families—of course only in their more general groundwork—can be traced to the nature of the German and Slavic countries.

Aboriginal Remains.—Did the advancing Indo-Germans meet with aboriginal inhabitants in Europe? We must so suppose from the ancient diluvial remains which have been found in France, Germany, Denmark, and elsewhere. Illustrations of two of the most ancient skulls in Europe are found on Plate 2. One (*figs. 2-4*) was found near Düsseldorf, and the other (*figs. 6, 7*) in the valley of the Meuse in Belgium. These skulls, both dolichocephalic and both very flat, especially the one from the Neanderthal (Düsseldorf), which is also noted for its exceedingly strong bones, are very remarkable, for they belong to no class of skulls of races now living.

In order to give them an ethnologic position they have been pronounced to be of Finnish origin—a supposition which has no foundation, for the form in question deviates as much from the Mongolian skull (*comp. pl. 2, figs. 13, 14*) as from the Indo-Germanic. An extinct aboriginal race has also been thought of, of which we know nothing, and possess nothing but these skulls and a few pre-historic articles, perhaps the most ancient of the Stone Period. The fact that these remains must belong to a pre-historic population is clear, but it is doubtful whether we can find a place for them. (For illustrations of the different stone weapons, the pieces of bones, the scratched images of animals of the diluvial “finds,” and of the bronze weapons and the buildings of a later period, see Vol. II.)

Dispersion.—How, then, shall we explain the migrations of which we have spoken? The earliest masses of population, having less developed means to supply an existence, required far more space than the peoples of to-day. When their numbers became greater, they gradually spread, and of course to places where the conditions were most favorable and most inviting. In this manner the masses separated by gradual dispersion; of course such migrations proceeded very slowly, and with all the leisure which life at that period permitted; and they were very different from systematic colonizations or from wild wanderings. Still, the latter also probably occurred: by some mishap (going astray, wars, etc.) single parties, or even larger hosts, might have separated from the common centre. Thus the ancestors of the Basques may have separated from the ancestors of the Indo-Germans when the latter were on a very early grade of civilization; and just so other closely-united clans or casual hordes may

have separated. Such seems to have been the origin of the earliest inhabitants of Europe. Perhaps they were more closely united to the ancestors of the Basques.

The following reflections give more solidity to these suppositions: first, geographically considered, such migrations are not only possible, but are more probable than an influx of Finnish tribes from the North or of swarms of Arabic-Africans from the South. Secondly, the oldest form of the Indo-Germanic skull was no doubt dolichocephalic, for the skulls of the Asiatic Indo-Germans are mostly so, and close observation seems to indicate that the dolichocephalic form is gradually changed into the mesocephalic with the advance of civilization. This we find later on among most European Indo-Germans (comp. *pl. 2, fig. 9*, with *pl. 2, fig. 12*, or *pl. 89, fig. 11*). Thirdly, civilization and changes in the manner of living seem to diminish the thickness of the skull-bones. Skulls from old French graves of the thirteenth century, which were examined by a famous French anatomist, were exceedingly thick and much stronger than those of the present French.

Thus in this direction a connection between the most ancient remains and the present form of the European population is by no means impossible. The great antiquity of the remains is no obstacle, for if we consider language and roughly calculate the date of the Indo-Germanic pre-historic period, we also reach very early times. It requires an infinitely long time to create such forms of language as the Indo-German and to give them so tenacious and enduring a solidity as they everywhere possess.

All this, of course, cannot be strictly proved. But still less foundation is there for the theory which supposes an aboriginal people in Europe that later on disappeared entirely, and which attempts to explain by an intermixture with it the physical peculiarities of the present race. There is hardly any doubt that the pile-buildings of Europe appertain to ancient Indo-Germans: it is difficult to decide to which tribes they belonged, but the geographical situation might decide; those of Southern Germany and Switzerland might be attributed, for instance, to the Celts, and those of North Germany to Germanic nations. (See LAKE DWELLINGS and *illus. Vol. II.*)

Leaving those misty ancient periods and stepping on clear historical ground, we classify the European Indo-Germans as follows:

1. The *Greek Family*, to which belong the *old Greeks*, the *modern Greeks*—notwithstanding their intermixtures with Slavs and Turks—the *Illyrians*, the *modern Albanians*, the *Thracians*, and, in Asia, the *Phrygians*.

The Phrygians, who have left visible traces behind them in Macedonia, migrated back into Asia, and we must presume the same of the Ionic Greeks. The Albanians, who also settled as colonists in Greece and Italy and scattered all over the Orient as soldiers, are the old Illyrians, and they have retained their aboriginal seats in the western part of the

Balkan peninsula. They are divided into two linguistically distinct, chief families, the *Toskides* and the *Ghegides*, the former in the south of the country, the latter in Central and North Albania. Their name, Albanians, is derived from a small region of their country extending from near Corfu to the Voyutza River. Its name is Arbar, and the inhabitants are called Arbanites, whence has been derived the name Albanians, as well as the Turkish denomination of Arnauts. The Albanian language is more closely related to the Greek than to the other Indo-Germanic languages.

2. The *Itali*. All the different tribes of ancient Italy were later on absorbed into the *Latins* (Romans). They had probably migrated overland by way of the South-eastern Alps, but some of the most eastern tribes may have come directly from Greece by water. The Romans and Greeks are related in the same degree as the Indians and the Iranians.

The skulls of the Greeks and the Romans belong to the mesocephalic form, but they approach the dolichocephalic more than the brachycephalic (*pl.* 2, *fig.* 9), and they are not very high. Two types may be distinguished among the ancient Greeks—the one rather dolichocephalic, oblong-wedge-shaped, with broad occiput, narrow, straight forehead, and larger facial angle; and the other more brachycephalic, with rounded skull-structure, low and somewhat retreating forehead, strongly-projecting frontal bone, and smaller facial angle.

The modern Greek skull is, according to Retzius, high in proportion to its length and breadth, of a wedge-like, rounded form, but broader at the forehead than at the occiput. The hair and eyes of all South Europeans are dark, the skin as a rule brownish, but in many cases often of a yellowish-white. Blond heroes are frequently mentioned by the ancient Greeks, so that in olden times a lighter type also must have existed. (See GREEKS, also ROMANS, and illus. Vol. II.)

3. The *ancient Celts* were found in the western part of Europe, in Gaul and Northern Spain (where by intermingling with the Iberians they were changed into the Celtiberians), in Britain, in Switzerland, throughout Southern Germany to the north of the Main, and in Northern Italy. At present the Celts are confined to Brittany, Wales, Ireland, Western Scotland, and the islands between Ireland and England. The buildings depicted on Plate III (*fig.* 4) belong to them. They retained in the Scotch mountains, almost to the beginning of modern times, their old barbarous character as it was described by Cæsar.

Their languages form two great divisions—the Cimbric and the Gaelic branches, the latter comprising the northern, the former the southern, languages. The Old Gaelic, the language of Vercingetorix, is extinct, with the exception of a few relics. The oldest form of the Celtic languages that we possess originated in the early Middle Ages. Celtic influences have not been unimportant on the character of mediæval legends.

The Celts nowhere exist as independent nations, but they derive

importance from the fact that they constitute the original stock of the modern French people and were a factor in the origin of the English nation. Even in ancient times they exhibited a double type: in Gaul they were light, blond, and blue-eyed, while the Britons were of a darker complexion with dark hair; on the other hand, Tacitus described the Caledonians of Scotland as having red hair. The present Scotch Highlanders also comprise many red-haired individuals, but in general they are of a rather dark complexion, with dark-brown straight hair. In South Wales the people are dark, especially in the cities; in North Wales they are light, blond, and blue-eyed. The form of the skull is dolichocephalic, and the temples are flat, in consequence of which the forehead is narrow and the back of the head broad; but mesocephalic shapes are frequent among them.

4. The *Germans* form three divisions—the *High German*, the *Low German*, and the *Northern* families. The *Swedes*, the *Norwegians*, together with the *Icelanders*, who belong to them, and the *Danes*, constitute the Northern family. The Low Germans are the largest division: to them belonged in ancient times the *Goths*, together with related peoples, such as the *Vandals*, *Burgundians*, *Bastarnæ*, *Gepidi*, *Heruli*, etc. They also include the *Cherusci*, *Angles*, *Saxons*, *Frisians*, and, in fine, all tribes of Germany speaking the Low German tongue, as well as the *Netherlanders* and the *English*. At present four forms of the language of this family may be distinguished—the Low German, the Frisian, the Dutch, and the English, which are again divided into various dialects.

The High Germans, who are more closely related to the Low Germans than to the Northern nations, comprise all tribes speaking the High German tongue, such as the *Hessians*, *Franks*, *Thuringians*, *Bavarians*, *Saxabians*, *Alemanni*, *Swiss*, etc. The oldest linguistic forms of this division are the High German dialects, which have been retained since the seventh century in a few examples; the different idioms of to-day are homogeneous, but independent.

The Northern family, especially the simple rural population, has retained the original Germanic type—high stature, robust build, light complexion, blond and abundant hair, while in the cities, even in Norway, brunettes are not rarely found. It is the same in Germany. Indeed, the population of Germany is greatly mixed, being composed of Germanic, Celtic, and Scandinavian elements, intermixed with Roman and Romance intruders, and in the east with the remains of the Slavic and Russian aboriginal population, and also with Mongolian elements; while Jews are nowhere absent.

Nevertheless, the present physique of the Germans, however great a contrast to the original Germanic, has been changed not so much by intermixture as in consequence of advancing civilization and of changed conditions of life. Even among the Welsh and the Norwegians, who have been comparatively little exposed to intermixture, we find such double types; furthermore, families whose genealogy proves them to have been purely

Germanic for many centuries exhibit the modern rather brunette type, while other families known to be mixed show the pure Germanic type.

The rural population has preserved the Germanic type most purely, but it cannot be asserted that it is less mixed. The skull-form of Germanic families is nowhere truly dolichocephalic, but it is remarked that the Germans and Swiss have broader heads than all others. The Low Germans (according to Welcker's index) have narrower skulls than the High Germans.

5. The *Letto-Slavs*. We comprise the *Lithuanians* and *Slavs* in one great division, because they are closely related in language; but this division at once separates into two families, the Lithuanian and the Slav. To the former belong (in Livonia and Courland) the *Lithuanians*, the *Letts*, and the *Old Prussians*, whose language is now extinct.

Of greater importance are the Slavs, who are philologically more closely united among themselves than are the various Germanic families. The Bulgarian, which has reached us as the old Church language of the eleventh century, is the earliest Slavic language. According to Schafarik, the Slavs are divided into—

First, a *south-eastern* family, to which belong (1) the *Russians*, who are again divided into the *Great Russians* (beyond a line from Lake Peipus to the Don), the *Little Russians* (south of this line in Eastern Galicia, Bukowina, and Northern Hungary), and the *White Russians* (west of this line, toward the Baltic Sea). (2) The *Bulgarians*, who were formerly also in Hungary and Wallachia, but who are now bounded by the Danube, the ocean, and a line from Salonica to Widdin. (3) The *Servians*, in Servia, Bosnia, Dalmatia, Herzegovina, etc. Plate 72 (*fig. 6*) shows a group of Servians in their peculiar attire. (4) The *Slovenians* in Carinthia and Carniola up to Styria.

Secondly, a *western* family, which comprises the *Poles* and *Czechs*, together with the *Slovaks* and the *Sorbs* or *Wends*. Among the Poles must be included the *Kassubs* and *Polabs*, whose language is now extinct, and who formerly extended along both sides of the Elbe and had some settlements as far as the Main and the Rednitz. To this branch also belonged the now Germanized (Lechish) nations on both banks of the Oder, in Silesia and Western Pomerania. The Wends also formerly extended from the Elbe to the Saal; now they are confined to the region between Löbau and Lübben, through which the lower Spree flows.

The Slavs are smaller than the Germans, of a darker complexion, with black, straighter hair and rounder faces: a tendency toward the Mongolian type has often been asserted, and cannot be denied. The skull is brachycephalic and approaches the Mongolian form.

6. The *Romance* peoples, who have originated from the intermixture of the Romans with various other European nations.

Language.—First must be mentioned the *Italian* language, which was developed from the national idioms of Italy by the influence of German languages which inundated Italy at the beginning of the Middle Ages.

It is spoken in Italy, Sicily, Corsica, and Sardinia, in Southern Switzerland and Tyrol, and on the coast of Dalmatia, and is divided into numerous dialects.

Secondly, the *Portuguese*, *Spanish* (Castilian), and *Catalonian* languages, the latter of which is spoken in the east of Spain (Valencia and Catalonia), on Pityusa (Formentera) and the other Balearic Islands, in a small coast-tract in Sardinia, and in Roussillon in Southern France. Each of these is divided into various dialects.

Thirdly, the *Provençal* (Langue d'oc) and the *French* with its dialects (Langue d'oïl); in the Grisons the *Rheto-romanian* (Ladinish); and in Friuli (Udine) the *Friulian* language; the latter two are closely related, and originated from a mixture of Roman with Celtic and Germanic elements. In the east of Europe we also find Romance peoples: these are the northern *Wallachians* or Roumanians, the Daci-Roumanians, who dwell in Wallachia (the ancient Dacia) and Moldavia as far as Bessarabia. They surround the Transylvanian Germans and several Magyar districts. The southern or *Macedo-Wallachians* dwell in Macedonia, one branch to the south of Lake Ochrida and another to the west of the Pindus Mountains.

The Romance languages are all filial languages of the Latin, but the peoples themselves have retained their old inherited character in spite of the various interminglings which they have undergone. The northern French, for instance, although so much mixed with Roman and Germanic elements, still exhibit the characteristic traits of the old Celts who laid the foundation of the nation; they differ remarkably from the southern French. The Spaniards, originating from an Iberian source by intermixture with Roman, Germanic, Celtic, and Arabic elements, still retain much of the old Iberian character. Quite a different character is exhibited by the Italians, who reflect rather faithfully the nature of the old Italian tribes. Still, these Romance nations form a unit in comparison with the Germanic nations, and the mutual reactions of those great opposites, the Romance and Germanic characters, have played a most important part in the modern history of Europe. The Romance division is based partly on the always powerful influence of Rome, and still more on the influences of a southern climate, which is so different from a northern.

Germanic and Romance nations have spread over the greater part of the globe: the Germanic race is in North America, South Africa, India, East Asia, Malaysia, Australia, and New Zealand, without naming the colonies of Western and Southern South America, Polynesia, and elsewhere. The Romance nations, though less aggressive, have taken the principal possession of America: Spanish is spoken in Mexico and throughout Central America, and, with the exception of Brazil, where the Portuguese prevails, it is the language of all civilized South America. The districts in which the French prevails (Cayenne and some islands) are proportionately small. The islands of the middle Atlantic Ocean are almost all Spanish (Canary Islands) or Portuguese. Spanish prevails also in Malaysia (Philippine Islands, Marianne Island), while the Portuguese

is almost extinct there, but has been retained in some places in Hither India. France governs Algeria, some islands east of Africa, New Caledonia, and Tahiti.

The third great race of the modern Europeans, the Slavic, is also spreading extensively. Almost the whole of Northern Asia from the Caucasus to the mouth of the Amoor belongs to it. Although, yielding to modern principles, this race leaves almost untouched the peculiarities of the peoples whom it has subjugated, there can be no doubt that this spread of European characteristics is of the utmost importance in universal history.

Civilization.—Thus we see that the Indo-Germanic family has at present the greatest power on earth. It occupies the highest rank yet attained by human civilization, not only in intellectual respects, but also in physical life. Everywhere nature seems to strive after that type of the human form which it has finally attained in the Indo-Germanic peoples, and which is everywhere developed in those places where the continued enjoyment of prosperity has permitted the race to develop itself, as in Polynesia and in some African and some American regions.

The European type is not the original type of mankind, from which the less favorable forms have degenerated; neither is it a type confined to *one* race and beyond the reach of others: it is rather the last degree of human physical development, which is gained only by gradual cultivation and the favor of all kinds of circumstances. It may be attained by any race which has, in consequence of favorable circumstances, an opportunity to cultivate itself, as is shown by the development of the Mongolian race in Turkey, the Caucasus, and Hungary. The type may be lost by long-continued wildness and subversion. The oppressed Irish of some districts are a sad illustration of this fact.

Physical, Intellectual, and Moral Development.—Intellectually also the Indo-Germanic race at present occupies the highest rank. It shows what humanity can accomplish intellectually and morally. Here we must note the most remarkable lesson taught by anthropology: the entire development of mankind, even to its highest degree, depends immediately on the natural quality of the soil (comp. p. 176). It was the natural condition of the soil which caused the originally homogeneous race to separate and to migrate to regions which influenced it differently.

The human race everywhere exhibits a uniform anatomical foundation, which it owes to its uniform development from lower animal conditions: this anatomical foundation is the nervous system, which is wonderfully developed in man as compared with the lower animals. All human development has resulted from the influence exerted upon it by dissimilar parts of our planet.

The entrance of man, thus constituted, into the world, constructed as it is, determined his physical and intellectual development and his subsequent destiny; and this development and this destiny could not have been otherwise than what they are, for they are the result of a natural necessity.

It was of course immaterial whether this or that horde went here or there: a certain development and a certain fate awaited them. The Indo-German races would have been developed even though the ancestors of the Mongolians or of the Oceanians had migrated into Western Asia and into Europe. In that case these would have become what the ancestors of the Indo-Germans were; and the latter, had they wandered to Northern Asia, would as certainly have become Mongolians.

But still more. As the development of man from a low animal type up to human dignity depends solely on the material influence of physical nature, so we see that at the very creation of the world the necessity for human development, and for human development such as we have it, was established. It may seem exaggeration, but it is perfectly true to say that at the creation of the world all the historic destinies of this small factor, Man, were established in all details and for all futurity. But the following is still more noteworthy: Man has by the aid of nature risen first to physical power, and by this to intellectual might. But this is not his highest end; his intellectual abilities must, and will, conduct him to moral liberty.

These three steps of development—the physical, the intellectual, and the moral—cannot be separated: as the higher always includes the lower, so the lower contains from its beginning the germs of the higher. Moral liberty, which in its growing power will bring blessing to all people, although apparently so distinct from physical nature, results by stern necessity from natural development; and thus we are compelled to acknowledge a moral law in a world where the final and highest end of natural being is MORALITY.



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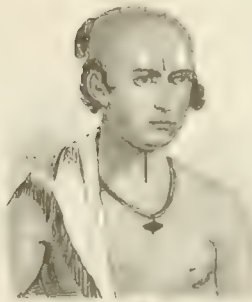
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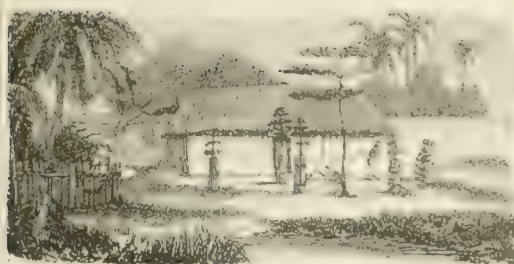
1. Brahman. 2. Sayweli. 3. M. ... 4. ... 5. ... 6. Panah. 7. Old noble Indian woman. 8. ...



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4. Grave monument of a Rajput, Gujarat. 5. Hindostan, near 6. School of Hindostan. 7. Queen of W. Hin-
dua.



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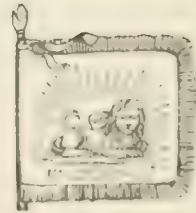
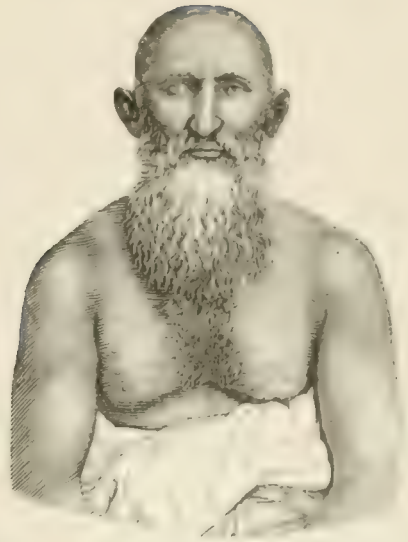


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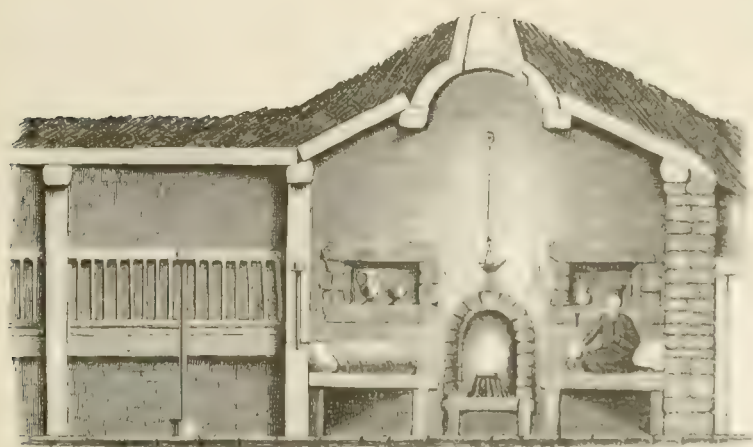
1. Persian (about 1700). 2. Persian woman. 3. Persian woman in traditional dress. 4. Persian warrior. 5. Persian warrior. 6. King of Persia (about 1700). 7. Market of Isfahan, Persia (1780).



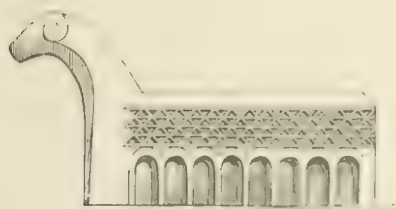
1, **2**. Tajik (profile and full face view). **3**. Persian cannonier. **4**. Persian soldier. **5-8**. The Persians.



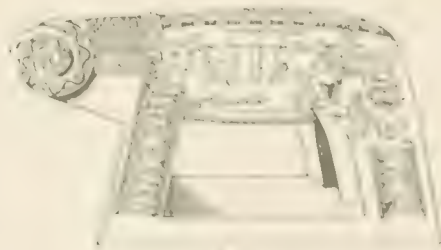
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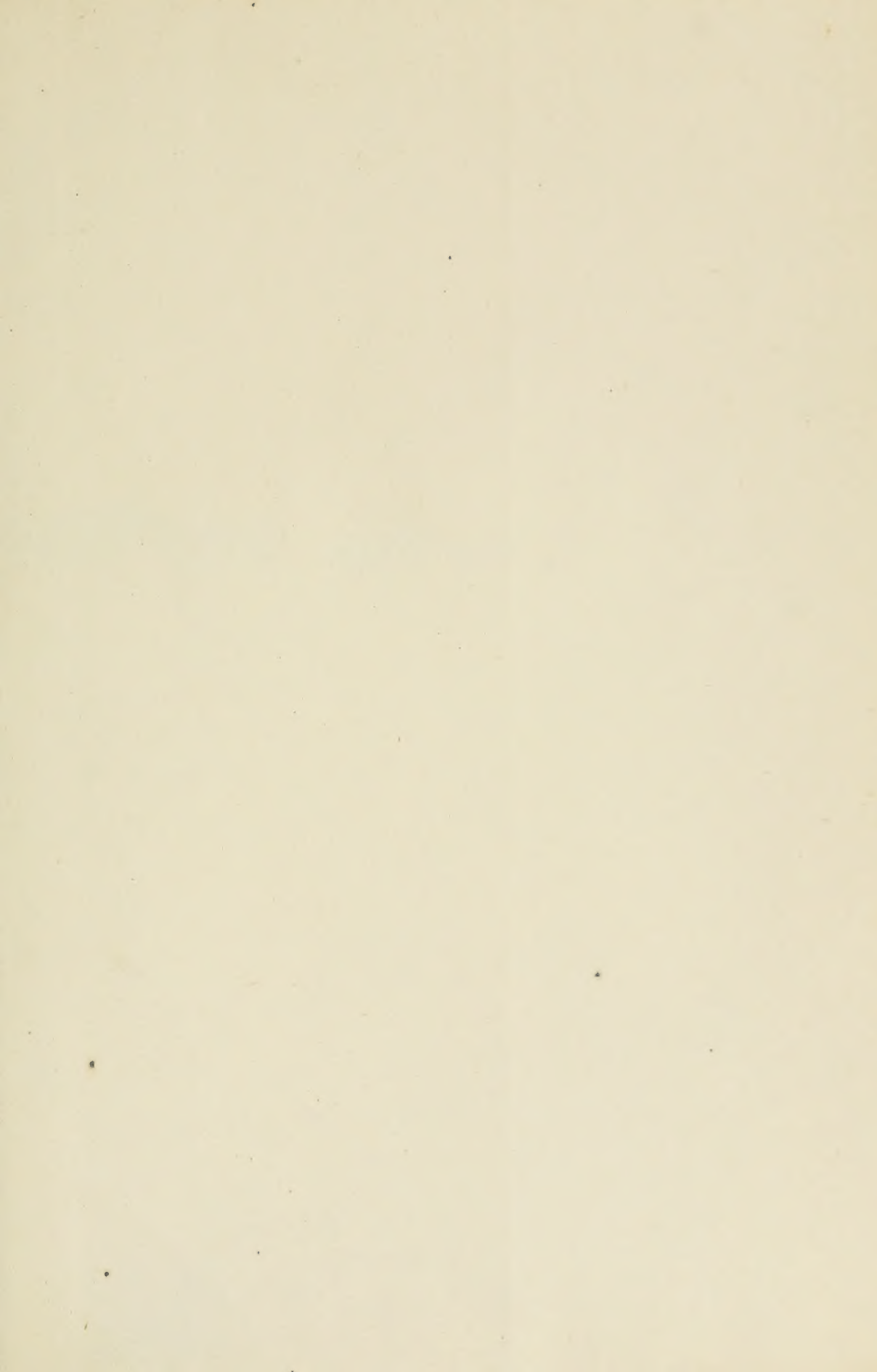
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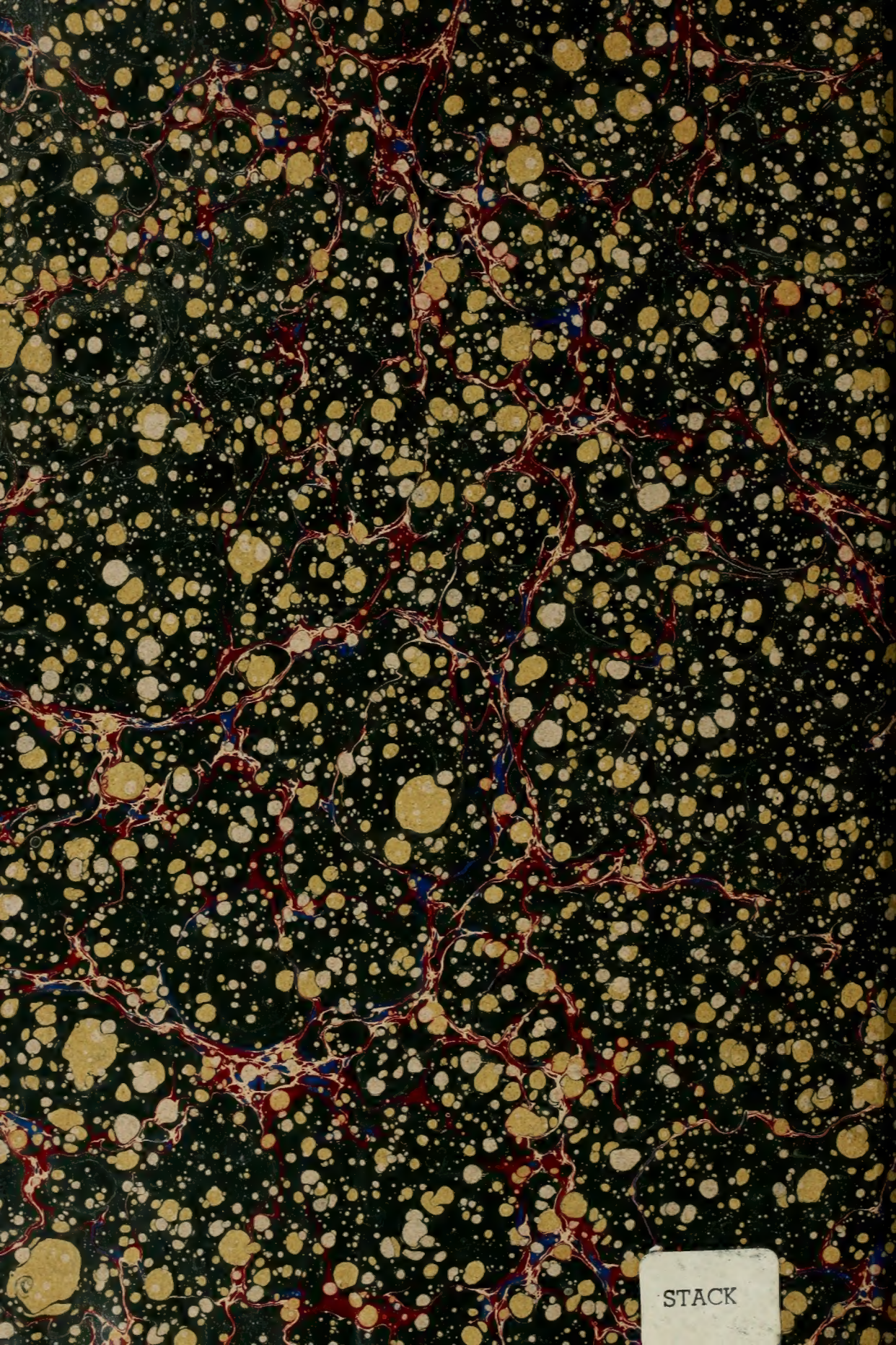
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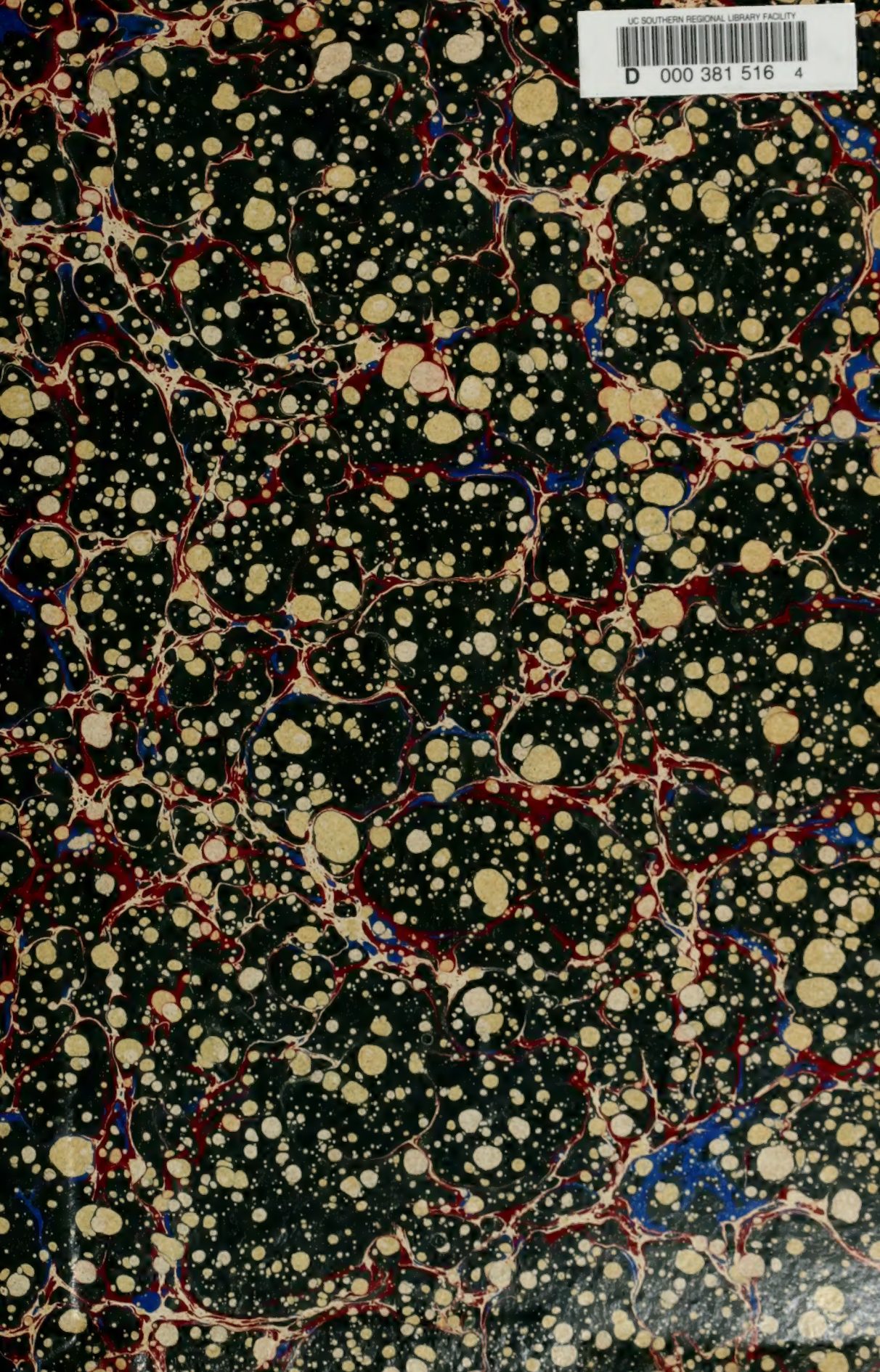
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